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Pathways to Trust and Adoption: A Grounded Theory of Academics' Perceptions of E-learning in Portugal

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“Had subjectivity not made its radical appearance, there would have been no knowing and no one to take notice, and consequently there would have been no history of what creatures did through the ages, no culture at all.” (Damasio, 2010:4).

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In memoriam Manuel Canhoto, my Grandfather and my telluric life-force.

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Abstract

E-learning is transforming Higher Education (HE) provision and the traditional structures of knowledge production and dissemination. The structure and strategy of universities are impacted by this transformation. The related social, cultural, organisational and political demands of that change cannot remain uncritically assessed because technology in itself is not a driver of effective change. However, with academics rests the potential of resistance or the advancement of change as they operate at the core of Higher Education Institutions' (HEI) social and cultural relationships and practices.

In the specific case of e-learning adoption, academics are a professional group worth studying, to understand how internal (perceptions and knowledge schemata) and external (organisational ethos, professional rules, praxis and routines, etc.) cognitive structures are co-ordinated and re-arranged as a consequence of embedding technology-enhanced learning into traditional HEI.

This thesis reports a PhD research study, which aims to identify perceived barriers to trust in e-learning, as identified by academics in the context of Portuguese HEI. The study adopted a Grounded Theory approach as the overarching methodology to guide the analysis of qualitative data collected through 65 semi-structured interviews with informants. The sampling strategy was theoretically-driven, and it focused on the identification of a relevant social arena of action, composed of academics in Portuguese mainland public HEI, teaching at BA/ BSc Level, and affiliated with Faculties where e-learning appropriation manifested itself in considerable depth.

The conceptualisation of trust presented in this thesis derives from academics' identification of the methods that allow them to make assessments and decisions regarding the dependability of e-learning adoption, framed as a transaction that involves a certain degree of risk and difference to the traditional academic environment and practice.

Therefore, the principal aim of the thesis is to advance the literature in e-learning adoption by connecting the psycho-social foundations of academics' trust with the macro-bases of organisational processes that are set in motion to accommodate e-learning. The result is a grounded theory that illuminates the processes through which the function of trust management becomes the organising principle of e-learning adoption, providing that several aspects of institutional life are transformed to operate as incentives.

The research findings point to the criticality of thinking about trust-building factors before the establishment of e-learning, which can make the implementation stages run more smoothly, and which can minimise conflicts that may arise at the level of individual adoption.

Particular emphasis is placed on the need to supplement academics' trusting behaviour beyond the dimensions of initial belief, expectation or willingness to appropriate technology. These sources of trusting behaviour are not solid enough as their basis is mainly inferential and grounded in experience-based saliency of values.

Conversely, greater favourableness towards e-learning appears to be strengthened by the introduction of a balancing effect in academics' perceptions of risks and benefits. This occurs by the process of institutionalising trust through management practices at the macro-organizational level, i.e. the adherence to a normative system that formally recognises and rewards the demands of academics' virtual presence.

In turn, trust becomes institutionalised at the micro-organisational (individual) level, with knowledge equity, participation and contextualisation of the purpose and tools of e-learning's pedagogical innovation. To achieve this purpose it is necessary to produce symmetry of information regarding the role of e-learning within the wider framework of institutional objectives. From the intersection of interventions at the macro and micro levels, academics' expectational assets can be capitalised to facilitate coordination and cooperation, and to mainstream adoption.

This study contributes to the body of knowledge on academics' adoption and integration of e-learning, specifically in the context of traditional HEI. In disciplinary terms this study adds to the fields of Behaviour and Information Technology, Educational Administration, Organisational Behaviour and Change Management. Furthermore, in practical terms, an understanding of the enabling and restraining factors involved in academics' attitudinal alignment will inform HEI managers about the resources and conditions required to support academics in the process of converting their print-based courses to technology-enhanced educational delivery.

List of publications

The current dissertation has originated the following research publications:

Martins, J.T., & Baptista Nunes, J.M. (2012). "Intellectual property rights and the myth of the open scholar: an exploratory study of Portuguese academics' reluctance to make educational materials available online". *In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications, EdMedia 2012, 26-29 June 2012, Denver, CO, USA.*

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Nunes, M., Martins, J. T., Zhou, L., Alajamy, M., and Al-Mamari, S. (2010) Contextual sensitivity in Grounded Theory: the role of pilot studies. *Electronic Journal of Business Research Methods*, **8** (2), 73-84.

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1. Introduction

“If you just build it, they won’t come – you need to shape users’ behaviour by acknowledging their world view rather than your own as a technology implementer” (Haymes, 2008:67)

The citation above depicts and condenses the paradox of educational technologies’ appropriation by academics, considerably debated and underscored by the literature (Haymes, 2008; Heilesen and Josephsen, 2008; Kim and Bonk, 2006; Moser, 2006; NATFHE, 2003; Zayim et al., 2006): e-learning is not adequately acknowledged by potential users. Overwhelmed by feelings of foreignness and inadequacy, academics fail to use available technology effectively, resist and ignore the gain in efficiency, productivity enhancement and deployment of more interactive modes of teaching and learning.

This mismatch in perception between the technology savvy - defined by the literature as innovators (Rogers, 1995) - and the average users is often regarded as a soft power issue when compared to infrastructure-related capabilities. However, it seems to translate much deeper adoption problems, related to the academia’s set of values and perceptions about knowledge construction and transfer.

There is, according to Haymes (2008), a persuasion road to walk together with academics, who remain excessively embedded in and accommodated to a stable currency - that of the “sage on stage” and derived “traditional notions of scholarship”. This perception renewal journey entails overcoming “psychological and social barriers to technology adoption” and a re-examination of patterns anchored in old practice, because e-learning brought along not only “the flattening of knowledge production and the ease of access to information”, but also the redefinition of the instructor as e-moderator with a markedly mentoring role (Ryan and Scott, 2008), requiring engagement in discussion and permanent reflective and critical thinking stances.

Reflecting on instructors’ actions and intentions as how to plan and deliver teaching and learning, Stacey and Wisenberg (2007:22) highlight the unpreparedness to cope with the paradigm shift happening between face-to-face and online modalities of teaching, which requires of instructors a sound understanding of relevant pedagogies, a new set of

competences and the personification of new roles, for which professional development training must be devised: “content facilitator, technologist, designer, manager/administrator (concerned with the issues of learner registration, security, record keeping, etc.), assessor, and particularly that of process facilitator, concerned with facilitating the range of online activities supportive of student learning”.

Generating in academics an integrated kind of thinking aimed at transforming e-learning instructional benefits into a necessity is Haymes (2008) proposed endeavour, fulfilled only when (1) teachers’ expectations are aligned with an understanding of the technology’s costs and benefits; (2) e-learning is marketed and academics are aware of what to do with it; (3) complexity in use is reduced; (4) academics perceive e-learning as essential; (4) academics are solicited input and contribute to the deployment of the university’s technology strategy.

What makes such transfers possible and reinforces them is both an accommodation and assimilation process, which implies adaptation, development or modification of perceptions and ultimately a creative use of the technological artifact: “every transfer necessarily involves a transformation of what is transferred, the crux of which is a process of adjustment to the other particular world. Transfers do not simply happen; they are intended or at least presuppose a certain willingness” (Fritz, 2005:95).

In the learning ecology it thus becomes paramount to understand how academics develop practices around e-learning technologies and how they are incorporated into practices. This can be achieved by exploring academics’ metacognition: reflection on knowledge state and abilities encourages self-appraisal and self-management. Given academics’ experience of “increasing expectation to incorporate computer technology into their teaching”, it would be useful to gain more accurate insights into e-learning meta-cognitive understandings, also as a means to help “individuals come to terms with the nature of technological change and their own abilities to confront this change” (Phelps et al., 2004).

However, we must also be conscious of broader settings and patterns of activity when investigating the appropriation phenomenon since it encompasses cognitive representations that transcend the individual level and take place at the heart of sociocultural systems. At university level, where paradoxically “most technology strategies ignore the central role that academics play in the process of change” (Zayim et al.,

2006:213), it becomes essential to understand “how intelligence is distributed across a broader matrix of individuals” (Becvar and Hollan, 2007:312) who interact and engage in negotiation and mutual adjustment activities, because the decision about the usefulness of a technology is a social and political construction of practice – from the elimination of competence-related barriers to the usage of the system, to decisions on actual pedagogical contents and activities.

An all-academics encompassing technology adoption cycle depends on the establishment of what Moser (2007:69) classifies as an “intelligible structure”, a well marketed program aimed at convincing academics that they need to embrace different modes of teaching and that e-learning offers enhanced pedagogical avenues such as case-based learning, problem-based learning or online collaboration. Moreover, this program should concentrate the technology mainstreaming strategy and function as an incentive structure for educational technology support, involving departments and advisory boards and delivering “a well-rehearsed set of scalable support offerings” (Moser, 2007:69).

This lack of systematic support in competence development, course design and teaching phases ranks high on the list of appropriation blockers but does not stand alone. Parchoma (2009:153) denounces the problematic nature of strategic incongruities “among institutional and departmental priorities and faculty members’ efforts to adopt CMLTs” coupled with collegial cultural scepticism resulting in “over-emphasis on traditional priorities and goals as impeding successful CMLT adoption”. Many instructors resist departing from past methods and topics and complacently prefer staying within their comfort zones, because “reengineering courses for technology-based delivery forms forces the professor to plan in extensive detail” (Miller et al., 2000:233). For those who embrace e-learning, the experience is that of “isolation, reinventing the wheel, and potentially not using IT to best effect” (NATFHE, 2003: 4), as a consequence of unplanned online learning.

Other academics’ resistance to change reside in similar imbalances between “norms embedded in the change and those extant in the institutions’ culture” (Folkestad and Haag, 2002:4), which affect the development of a sense of ownership. These include academics’ lack of “time to integrate technology into instruction” (Parchoma, 2009:151); professional vulnerability because “teaching online is not well-rewarded as a scholarly activity and is not highly related to promotion and tenure decision and benefits” (Folkestad and Haag, 2002:9);

or academics' concerns about "copyright implications of online learning and fear (of) losing ownership and control" (NATFHE, 2003:20) over educational materials.

Such concerns and barriers determine the criticality of looking at the teaching and learning practices taking place at the university level. Understanding appropriation of e-learning as "the way in which technologies are adopted, adapted, and incorporated into (the) working practice" (Dourish, 2003:467) of instructors is a highly interpretive study, which cannot be detached from the interaction among networks of actors, technology and social settings.

Grounding that study on having academics articulating and disclosing perceptions of their own cognition but also of the larger organisational patterns within which they act gives the discussion palpable substance and is expectably an important contribution to uncovering key e-learning adoption factors.

1.1 Rationale, research question and research objectives

E-learning implementation in Higher Education is an area in continuous development, despite the longstanding availability of educational technology and the non-novelty of the problem. E-learning is not in its infancy if one considers the wealth of available flexible approaches for teaching and learning, mainly having networked technologies as the underlying infrastructure that allowed the emergence of Learning Management Systems, multimedia and virtual communities, and personalised and ubiquitous learning tools.

It is however the way in which e-learning transforms traditional teaching and entrenched learning models that conflicts with established roles and identities, requiring more than migrating or transforming learning materials into web-based environments. Successful transition and attitudinal alignment, especially of academics, requires stakeholders' commitment to support and foster change into more flexible modes of delivery, as well as the acknowledgement of the incapacity of technology in itself to solve problems or improve learning.

Benbya and McKelvey (2006:287) suggest that alignment “is a continuous coevolutionary process that reconciles top-down rational designs and bottom up emergent processes of consciously and coherently interrelating all components of the Business/IT relationship at three levels of analysis (strategic, operational and individual) in order to contribute to an organisation’s performance over time”.

Applied to the specific problem of academics’ perceptions of e-learning, the issue of alignment is a dynamic process and not an end state. It is subsidiary of the external environment and of factors within the organisation itself.

Considering the cognitive dimension of attitude alignment, expressed by individuals’ “shared representations, interpretations and systems of meanings among parties” (Nahapiet and Ghosal, 1998:244), the purpose of the study will be addressed through the following research questions:

- (1) What are the individual, strategic and operational factors that impact on Portuguese academics perceptions of e-learning?**
- (2) What are the trust barriers that hinder academics’ confident e-learning adoption?**
- (3) How can perceived risks and vulnerabilities be mitigated in order to allow academics to enact trust in e-learning?**

Question 1 was established at the outset of the research project and remained the main question until its end. The remaining questions emerged during the pilot study reported in Section 2.3.1, which was carried out with the objective of developing a greater awareness of the Portuguese HE context in terms of its perceptions of use and appropriation of e-learning.

Questions 2 and 3 represent a more focused approach on trust barriers and enacting trust. These questions were derived inductively from the analysis of data collected during the pilot study stage, and further guided the main study stage, as explained in Section 2.3.2. This process is common in Grounded Theory research, where it is expected that the research question emerges out of open coding and sampling based on data (Glaser, 1992:22-25).

To answer the aforementioned research questions, the following research objectives were set:

- To review the concept of e-learning and to describe what is understood by effective practice in relation to e-learning in Higher Education;
- To uncover the meanings and socially constructed perceptions underlying Portuguese academics' attitudes towards e-learning - a research problem unanswered by the existing literature, hence available for inductive explanation through the theoretical inscription of clusters of symbolic acts, emerging from academics' sense making and experiential accounts.
- To understand academics' intentions, actions and interactions and how they influence the adoption, planning and delivery of e-learning;
- To understand existing multilevel ontologies encompassing the structured social context of Academia, through recognising the intelligible structure of e-learning and identifying which mainstreaming and support strategies should be set in place;
- To achieve disclosure of academics' self and collective cognition concerning organisational patterns and catalysts of e-learning adoption.

1.2 Expected contribution

The objective of this research is to investigate the non-linear nature of relationships between inhibitors and enablers of academics' attitudinal alignment towards e-learning with particular emphasis on the social dimension of alignment and the development of appropriation strategies, in the context of Portuguese Higher Education Institutions.

This objective is contributory to the wider purpose of understanding "what is going on" in Portuguese academics' attitudinal alignment towards e-learning and the very general nature of this question is a symptom of the phenomenon's complexity. The researcher's aim is not

to restrict the area of study to a narrow number of variables, but rather to expand it in such a way that contextual aspects are included.

This endeavour will naturally deal with the complexity and uncertainty resulting from the consideration of people and their interrelations with an organisation, as defended by Trauth (2001).

In the case of e-learning adoption in Higher Education Institutions, despite previous research into critical success factors (White, 2007; McPherson and Nunes, 2008) and the identification of enablers and barriers to adoption, the complexity and uncertainty surrounding the Portuguese context remains uncovered and begs for synthesisation of data into a theoretically solid whole, which will occur through the unearthing and explanation of the basic social processes that academics use to resolve the problem of e-learning appropriation.

1.3 Research outline

Considering the expected outcomes of this study, the attempt at understanding of the “mechanisms guiding faculty behaviour regarding educational technology” (Moser, 2007:66) followed an inductive approach, allowing theory to emerge based on academics’ experiential accounts and lending the inquiry useful insights about the development of e-learning appropriation in practice. Ultimately, academics’ sense making and decisions on appropriation are based on subjective perceptions of reality and of the university as organisational and environmental surroundings.

In terms of methodology, fidelity to the idiosyncratic nature of the context and emphasis on the production of understanding about social phenomena are particular strengths of Grounded Theory (Glaser and Strauss, 1967), as it provides a structured approach to “the gathering and analysis of human experiences and the associated interrelations with other human actors, coupled with situational and contextual factors” (Coleman and O’Connor, 2008:775).

Accordingly, Grounded Theory was adopted as the methodology in conducting this

research, for its capacity to provide deep insights and understandings of academics' perceptions, as well as of the assumptions underlying their behaviour and richness of lived experiences.

If e-learning and educational technologies have, as Garisson and Andersen (2000:25) argue, a disruptive function, "precipitating a rethinking of what it means to teach and learn in higher education", then such an impact in outcome expectations must translate into constraints and enablers of teacher adoption, that are worth rendering visible through building a theory or, as Strauss and Corbin (1994:274) maintain, through achieving "plausible relationships proposed among concepts and sets of concepts" and "discovering process – not necessarily in the sense of stages, but in reciprocal change in patterns of action/ interaction and in relationship with changes of condition, either internal or external to the process itself".

In this research, opportunities for theory-building were construed from academics' perceptions – elicited by informants' accounts of events - concerning links between decision making, action and self-reported e-learning appropriation and embeddedness processes. The discovery of a multi-level ontology encompassing the structured social context of the university was concomitant to handling meanings, capturing respondents' situational definitions and attempting at developing a data-grounded theory – an iterative, time consuming process, complete only when core categories are stabilised and saturated.

In terms of data collection, the study used semi-structured in-depth interviews to collect Portuguese academics' views, perceptions and anxieties. Sampling efforts focused on the identification of a relevant community of practice, composed of academics in Portuguese public HEIs, teaching at BA/ BSc Level, and affiliated with Faculties where e-learning appropriation manifested itself in considerable depth. Moreover, studying this community of academics allowed the researchers to examine a specific intra-organisational dynamics (Strauss et al., 1985), reinforced by a common professional and occupational world.

The sampling technique employed in this research therefore required selecting informants who were knowledgeable about the topic and who were willing to share their experiences with the researchers. Data collection efforts developed in two stages: a first interview round comprised 14 interviews; and a second interview round comprised 51

interviews. During the latter stage, 3 informants interviewed during the first interview round have been revisited to ensure the validity of ongoing coding and analysis.

The analytical process involved open, axial and selective coding strategies (Strauss and Corbin, 1998), which translated into breaking down interview scripts into units of meaning, starting with descriptive categories, reappraised for sets of irradiating relationships, ultimately condensed – through the analytical steps of constant comparison – into higher order categories of holistic explanatory power.

Concerns raised by informants in the course of interviews were representative of their professional category. They addressed change management practice, as globally there was the perception that HEIs had not adequately positioned themselves for the introduction of e-learning systems. In terms of theory building, the most significant categories emerging from interviews referred to change burdens resulting from changes in practice required by e-learning, and to erroneous institutional mainstreaming policies. It emerged strongly from data that an unrewarded extension of the teaching presence and the fading of traditional expectations for engagement in teaching and learning is a source of anxiety, stress and mistrust in e-learning by academics. These change burdens result in disruptions to academics' professional praxis and require changes in institutional attitudes, management and reward schemes.

1.4 Overview of contents

Following this introduction, Chapter 2 introduces Grounded Theory as the methodology used within this research, and explains the research design that was followed. In this chapter, the researcher presents the rationale for having chosen an inductive method, discusses the theoretical concepts that inform the method and introduces the series of analytical techniques that were used to induce a theory grounded in data. The different stages of the research process are also described.

Subsequently, Chapter 3 presents a review of the literature aimed at developing the researcher's theoretical sensitivity to the topic of e-learning. The chapter deals mainly with providing operational definitions and with reviewing the literature for the specific issues of

(1) blended learning; (2) institutional approaches to e-learning mainstreaming; (3) focuses of academics' resistance to e-learning; (4) motivational strategies for academics; and (5) the Portuguese context. A review of major themes in organisational learning is also presented.

Chapter 4 presents the findings of this research in the form of trust barriers that hinder academics' confident e-learning adoption. It lays the empirically-grounded foundation – composed of codes and categories - for an emergent theory that explains how e-learning perceived risks and vulnerabilities can be mitigated in order to allow academics to enact trust in e-learning.

Chapter 5 promotes the discussion of findings through the comparison of the emergent theory with conflicting or converging literature. This is presented as a strategy to build internal validity, deliver sharper theoretical constructs and achieve a higher level of theoretical integration.

Finally, Chapter 6 offers the conclusions of this study, summarising key points, extracting implications for practice, and providing orientation for future research.

2. Methodology and research design

This section of the dissertation will introduce Grounded Theory as the methodology used within this research. Moreover, the researcher aims at presenting the rationale for having chosen an inductive method that is able to accommodate an interpretive approach and address issues of context complexity. In doing so, the section discusses the philosophical concepts that inform the methodology, introduces the series of data collection and analytical techniques used to induce a theory grounded in data, and offers insight into the research stages.

2.1 Rationale for the choice of Grounded Theory

2.1.1 Ontological and epistemological alignment of Grounded Theory with the research question

The Grounded Theory methodology, as a systematic qualitative research approach endeavouring the development of an explanatory theory about a phenomenon of interest, is articulated and detailed in this section.

However, before explaining and justifying the research methodology adopted in this research, a clarification of the philosophical underpinning of the study is necessary. A justification for a symbolic interactionism perspective, embedded in a constructionist ontology and in an interpretive epistemology is thus provided.

Considering that the focus of this study was an investigation of academics' perceptions on e-learning, a qualitative approach was considered the most appropriate. Qualitative research is concerned with process rather than objective outcomes. It is descriptive, and centred on the natural setting of the participant, endeavouring to understand the meaning of an experience from the participant's perspective (Bogdan & Biklen 1992).

According to Potter (1996), there is a range of qualitative perspectives available for the study of meaning and human experiences, each providing specific theoretical underpinnings.

Symbolic interactionism, with a clear focus on meaning making in social situations (Charon, 1979; Potter, 1996; Woods, 1992), provided the most appropriate perspective for this research study.

Blumer (1969) has described symbolic interactionism as being based on three fundamental principles: individuals act “towards things on the basis of the meaning things have for them”; meaning “is derived from, or arises out of, social interaction one has with one’s fellows”, meaning is dynamic and changes as one acts and modifies it as a result of ongoing interactions (Blumer, 1969:3).

Therefore the meaning that a process like the adoption of e-learning has for academics is “constitutive, not accidental or secondary to the experience” (Bogdan & Biklen, 1992:36). Meaning is intentionally constructed, it is dynamic and will change as a result of ongoing interactions, because individuals act, perceive, interpret and act again – in a continuous dialectic process.

This approach to understanding an individual’s construction of reality is constructionism in ontological terms, and interpretivist in epistemological terms.

The aim of interpretivism is to explore the values, attitudes and beliefs which influence people to act in a particular manner (Punch, 1998). Following the tenets of interpretive research, this study accepts that concepts of reality are constructs of the human mind, and that they can vary from one person to another, being based on social meanings (Bassegy, 1999). Its objective is to explore the values, attitudes and beliefs which influence people to act in a specific manner (Punch, 1998). In this particular case, it is an exploration of the values, attitudes and beliefs which influence academics’ e-learning adoption decision.

To give voice to the meanings ascribed by academics to e-learning, as they respond to the research questions, this study adopts the ontological underpinning of constructionism (Crotty, 1998) or social constructivism (Stieb, 2005).

Crotty (1998:42) defines constructionism as being centred around the view that all knowledge and all “meaningful reality as such, is contingent upon human practice being

constructed in and out of interaction between human beings and their world, and developed and transmitted within essentially social contexts” (Crotty, 1998:42).

Within the context of this research, the use of constructionism will enable understandings of the academics’ reality as “it is internally experienced, socially constructed and interpreted” (Sarantakos, 1998:36).

In light of these ontological and epistemological commitments, this research takes the position that:

“There is no such thing as knowledge uncontaminated by any particular system of human purposes, beliefs, values and activities (...). [It] is grounded in experiences and practices, in the efficacy of dialogue, negotiation and of action”. (Howe and Berv, 2000:33).

The aforementioned statement seems to be aligned with Grounded Theory’s commitment to understanding empirical worlds (Charmaz, 2000:510) through being guided primarily by an interpretation of informants’ socially constructed realities.

Although Glaser and Strauss (1967) avoided openly declaring Grounded Theory’s affiliation with the symbolic interactionist orientation, there are clear points of contact, in particular the idea that individuals “act towards things on the basis of the meaning that the things have for them; the meaning of such things is derived from or arises out of the social interaction that one has with one’s fellows; and meanings are handled in, and modified through, an interpretive process and by the person dealing with the things he encounters” (Blumer, 1969:2).

2.1.2 Alternative qualitative approaches considered

Alternative qualitative research methods were considered, in particular ethnography and phenomenography.

Ethnography was considered given the fact that it is traditionally presented as suited to answering research questions that focus primarily on the symbolic and emergent aspects

of phenomena, with a strong emphasis on local and shared interpretations (Gopal and Prasad, 2000).

Furthermore, an important stream of IS research has focused on the social and organisational contexts of information systems (e.g. Harvey and Myers, 1995; Prasad, 1997), favouring ethnographic methods for their capacity to facilitate a deep understanding of the broader context of IT use (people, organisation, interaction with the system) (Myers, 1999).

Accordingly, the hallmark of an interactionist ethnographic study would be the absolute importance of a naturalist field setting, which would allow the researcher to access multiple points of view through temporally dilated immersion (aided by observation and interviewing techniques). In the context of this research, the precondition of prolonged immersion in the naturalistic research setting would not be easily fulfilled (due to issues of access), which has made the researcher abandon the possibility of embracing ethnography as the overarching methodology. Furthermore, classic ethnographic works have been criticised for lacking analytical systematization, which in turn affects the potential for theoretical elaboration (Vannini, 2007).

Phenomenography was considered as a potential alternative, mainly for being described as a qualitative research method particularly suited to educational research, for its ability to map “different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them” (Marton, 1984:31).

The associated epistemological and ontological standing of phenomenography is then based on relational view of human experience (Marton and Pang, 1999), which is compatible with an understanding of knowledge as social construction (Kvale, 1995). Accordingly, the foundational premise of phenomenography is finding the “limited number of qualitatively different ways” (Marton, 1984:31) in which individuals’ experience of concepts, principles or phenomena is expressed. This exclusive centring on the critical variations of individual experience has been identified as a limitation of the method – e.g. Marton and Booth (1997:114) expose the resulting “stripped description” - and has motivated the selection of a methodology with a clearer focus on organisational social processes.

Grounded Theory is preoccupied with the generation of theories that concentrate on a specific social process and that are directly relevant to the people concerned. This occurs

in sharp contrast with social science that is concerned with generating results to support or test existing theories, hence Chenitz and Swanson's (1986:3) description of Grounded Theory as "an advance in technology for handling qualitative data gathered in the natural, everyday world. It describes a method to study fundamental patterns known as basic social-psychological processes which account for variation in interaction around a phenomenon or problem".

As this research is centred on a qualitative inquiry at a localised level – the level of Portuguese academics – and seeks to understand drivers and barriers of attitudinal alignment towards e-learning appropriation from the academics' perspective, the emergent qualities of inductive process of theory generation were adopted. Moreover, as stated in Section 1, the meanings and socially constructed perceptions underlying Portuguese academics' attitudes towards e-learning remain largely uncovered by the existing literature, hence the researcher's objective of achieving an inductive explanation of the phenomenon, through the theoretical inscription of clusters of symbolic acts, emerging from academics' sense making and experiential accounts.

According to Barney Glaser and Anselm Strauss (1967), founders of the methodology, a Grounded Theory is inductively extracted from the data of social inquiry through the process of constant comparison, which implies concomitant data collection, coding and analysis, and acute fidelity to the reality of life experiences. Iterations in data are fundamental to identify a core category and related categories and concepts that sustain a substantive theory about a specific social reality.

Without detailed procedures, the objective of unearthing this substantive theory from data would be unable to reflect a rigorous interpretive approach to research findings. However, Grounded Theory is equipped with quality criteria to enhance trustworthiness and acceptance of the findings. The method constantly challenges the researcher to provide an audit trail of how codes and categories identified in the data contribute to understand the context of the phenomenon. In reality, the continuous interrogation of theoretical constructs' appropriateness is a symptom of the methods' most distinctive characteristic, as outlined by Conrad (1978:104): "grounded theory is constantly being delimited and modified in light of the phenomena under investigation".

Moreover, and as Piantanida et al. purport (2004:335), Grounded Theory is anchored in clearly identifiable procedures that "provide interpretive researchers with a disciplined

process, not simply for generating concepts, but more importantly for coming to see possible and plausible relationships among them”.

2.1.3 Alternative Grounded Theory schools of thought

As mentioned previously, Grounded Theory is a particularly appropriate methodology to adopt in this study with its focus upon social processes (Glaser and Strauss, 1967; Strauss and Corbin, 1990). Furthermore it fits the nature of the research questions outlined in Section 1.1: “Grounded theory questions (...) tend to be oriented toward action and process” (Strauss and Corbin, 1990:38). This study of academics’ perceptions is action-orientated because it seeks to explore subjective understandings, by taking into account the role which interaction within HEIs - as specific organisational environments - plays in developing “meaning” (Blumer, 1969; Schwandt, 2001).

Grounded Theory was first introduced by Glaser and Strauss in their book *The Discovery of Grounded Theory*, published in 1967. Despite having different back- grounds (Strauss was a qualitative researcher from the University of Chicago and Glaser was a quantitative researcher from Columbia University), the co-founders of the method challenged the long-established verification paradigm by proposing a theory generation-centred paradigm for the advancement of social science. Together, they arrived at the position that inductive theory generation needs to be grounded in data systematically collected and analysed (Corbin and Strauss, 1990; Strauss and Corbin, 1998; Pickard, 2007).

Notwithstanding a convergence towards an understanding of theory as labour of the ground, Glaser and Strauss developed conflicting under- standings regarding the application of GT, which produced two main streams of systematic approaches, namely Straussian and Glaserian (Fernández, 2004), advocated respectively in the key publications *Basics of Qualitative Research* (Strauss & Corbin, 1990), and *Basics of Grounded Theory Analysis* (Glaser, 1992).

The Straussian stream advocates using a more structured approach to collecting and analysing data (Pickard, 2007:156). However, the Straussian approach has been criticised for having “moved too far from the original concepts” (Pickard, 2007:156) of GT, and for

imposing an interpretive structure that may be “forcing data” (Glaser, 1992:122).

By contrast, the Glaserian approach advocates that the researcher should stand at a passive position, free from preconceptions, not forcing structure onto data, and trusting that theory will emerge (Rodon and Pastor, 2007).

A third Grounded Theory approach is proposed by Charmaz (2000, 2006) under the label of constructivist Grounded Theory, because she argues that the researchers’ perspective is integral to the process of collecting data and determines emergent theory emerges because it results from both participants’ accounts and the researcher themselves: “neither data nor theories are discovered. Rather, we are part of the world we study and the data we collect. We construct our theories from our past and present involvements and interactions with people, perspectives and research practices” (Charmaz, 2006:10).

This approach contradicts Glaser and Strauss’s (1967) classic version of a Grounded Theory methodology set out to “discover” the theory entirely independent of the researchers’ stance. Furthermore, the flexible and open-ended nature of the analytical procedures advocated by Charmaz (2007) were not favoured in this research, when compared against the set of novice researcher-friendly analytical principles and practices outlined by Strauss and Corbin (1990).

Despite the decades of dispute between the two main approaches, both Straussian and Glaserian researchers adopt an identical philosophical view, namely that theory should emerge from or be “grounded” in the data (Van Niekerk and Roode, 2009). Moghaddam (2006) adds that even though the two approaches have very distinctive paths to develop a theory, both Straussian and Glaserian have a conjugate definition for the main processes that form the operational core of GT, namely: use of literature, theoretical sampling, coding processes, comparative analysis, and theoretical saturation.

These issues are addressed in the subsequent sections, following the Straussian approach to GT, which provides more pragmatic rigour and clearer techniques, especially for the novice researcher who is less familiarized with the processes of data collection and analysis (Rodon & Pastor, 2007).

2.2 Research design

The Grounded Theory method, initially proposed by Glaser and Strauss (1967), incorporates iterative interaction with the social-technical environment under study, through direct contact with either human informants or other resources. This interaction results in a closely linked process of data collection and analysis, and is operated through coding, memoing and constant comparison at each stage of the analysis. The theory construction in the methodology is based on the construction of analytical codes and concepts from data (not from logically deduced hypotheses). These procedures are well explained and defined and offer the IS researcher a sense of assurance by means of a concrete set of methods that promise validity (e.g. theoretical sampling; theoretical saturation) and lead to the emergence of theory. Nonetheless, as outlined by Hughes and Jones (2003:57), there “can be a difficulty in effectively introducing such methods into a technically dominant field such as information systems”.

Despite this difficulty, there are growing calls for a shift in IS research and for a refocusing on “contextual and processual elements as well as the action of key players associated with organizational change elements that are often omitted in IS studies” (Orlikowski, 1993). Similarly, Watson (2001), Weber (2003) and Seidek and Recker (2009) claim for more theory development-focused IS research, whilst Myers (2000) and Urquhart (2001) highlight Grounded Theory’s usefulness in developing context-based, process-oriented descriptions and explanations of IS phenomena.

More recently, Fendt and Sachs (2007:448) argued that the Grounded Theory method is “engaged with the world and helps, especially with the constant comparison and theoretical sampling techniques, to come skin close to the lived experience and incidents of the management world and make sense of them”. This is particularly relevant for IS research, in which “it is often that organizational cases are the dominant unit of analysis” (Lehman and Fernandez, 2007:7).

However, Grounded Theory is still an underutilised method for IS research, being scarcely employed in comparison to more positivist and quantitative studies, as discussed by a variety of studies devoted to understanding the use of Grounded Theory in the discipline. According to Lehmann (2010), “only 3 out the 7372 papers in 1st tier journals [published

between 1985 and 2005] contain 'Grounded Theory' as a keyword" (p. 53). Urquhart (2007) presents a more optimistic figure, reporting a total of 32 Grounded Theory-based IS studies between 1996 and 2005, despite the incongruent application of the method, its reported adaptation, or its coupling with other methods. To this regard, a later study conducted by Matavire and Brown (2008) yielded interesting results concerning the diversity of understandings and approaches to Grounded Theory in IS research between 1985 and 2007: besides the traditional divergence between Glaserian (8% of studies) and Straussian (17% of studies) approaches, there is Grounded Theory used in mixed-methods research designs (13% of studies), and an overwhelming tendency to simply employ Grounded Theory data analysis techniques (67% of studies).

Furthermore, there is a growing body of literature that is descriptive about the method's implementation in a number of particular IS research projects (Toraskar, 1991; Orlikowski, 1993; Urquhart, 1997; Esteves et al., 2002; Lehmann and Gallupe, 2005; Allan, 2007; Coleman and O'Connor, 2007; Rodon and Pastor, 2007; Montoni and Rocha, 2010).

Additionally, there are also a few reflective contributions providing a constructive analysis of GT, connecting it to epistemological issues and addressing the wider IS disciplinary identity (Hughes and Howcroft, 2000; Urquhart, 2001, 2007; Bryant, 2002; Fernandez et al., 2002; Hughes and Jones, 2003; Fernandez, 2005; Urquhart and Fernandez, 2006; Lehmann and Fernandez, 2007). A recent example of the later is provided by Urquhart et al.'s (2010:378) in the form of a comparative study, where the authors advance guidelines for the conduct and evaluation of Grounded Theory studies in IS, and where Orlikowski's (1993) study into the adoption of CASE tools is still considered "the high-water mark of Grounded Theory in IS research".

The examination of the aforementioned corpus of Grounded Theory-based research allowed a more informed conceptualisation of this study's research design.

The research design is the structure that "ensure[s] that evidence obtained enable us to answer the initial question as unambiguously as possible" (de Vaus, 2001:9).

Accordingly, what follows next is a detailed presentation of the action plan that directed the data collection and analysis.

2.2.1 Literature review

The consideration of Grounded Theory's objective of discovering relevant theoretical concepts and their interrelations within specific contexts has led the researcher to question the role of a literature study before data collection and analysis, since it is argued that the imposition of pre-determined categories or existing theories may distort the process of theory discovery.

Glaser (1998:67), in particular, believes that the literature should be largely avoided before the study is set in motion for the fear of contaminating assumptions: "do not do a literature review in the substantive area and related areas where the research is done" to avoid a priori constructs or guiding theories, is specifically prescribed.

For Glaser (1998), the literature assumes a role in grounding the data as the theory emerges. It is therefore the emerging theoretical construction that drives the literature review, with the extant literature being incorporated and integrated with the substantive theory for constant comparison.

However, the researcher agrees with the compelling argument made by authors such as Parry (1998) or Henwood and Pidgeon (2003), who defend the importance of obtaining some information about the area one is about to study before generating theoretical propositions. To this regard, Henwood and Pidgeon (2003:138) specifically state: "the principle that people new to grounded theory often read into descriptions of the approach – of completely setting aside the literature at the start of the project to maintain sensitivity to relevance in the data – may sometimes need to be displaced by a more discriminating strategy of using the literature early on in specific ways".

As in other aspects of the Grounded Theory method, Strauss and Corbin (1990) disagree with Glaser and recognise the benefits of reviewing the literature early in the study for the purposes of stimulating theoretical sensitivity and questions, directing theoretical sampling and providing supplementary validity to the inquiry (Strauss and Corbin, 1998:44,51).

Following the proposal of Strauss and Corbin, this research preserved the defining feature of grounded theory - the inductive generation of theory. However, it is acknowledged that prior knowledge of the relevant literature is important to develop

theoretical sensitivity. Accordingly, a general review of the literature (Section 3) was of assistance to identify issues in the particular area and find gaps in available knowledge to be filled up by an inductively-built theory.

2.2.2 Sampling approach and data collection

Sampling efforts focused on the identification of a relevant community of practice, composed of academics in Portuguese public HEIs, teaching at BA/ BSc Level, and affiliated with Faculties where e-learning appropriation manifested itself in considerable depth. Moreover, studying this community of academics allowed the researchers to examine a specific intra-organisational dynamics (Strauss et al., 1985), reinforced by a common professional and occupational world.

The sampling technique employed in this research therefore required selecting informants who were knowledgeable about the topic and who were willing to share their experiences with the researchers. Data collection efforts developed in two stages: a first interview round (pilot study) comprised 14 interviews; and a second interview round (main study) comprised 51 interviews. During the latter stage, 3 informants interviewed during the first round have been re-interviewed as part of the theoretical sampling process and in order to support the validity of ongoing coding and analysis. The demographic details of informants are listed in Table 1. Additionally, Figure 1 provides further details on the disciplinary affiliation of the academics interviewed.

Gender	Number of participants
Male	39
Female	23
Professional category	
University E-learning Administrators	3
University E-learning Strategists	2
Senior Governmental Officers	2
Auxiliary Professors	27
Associate Professors	19
Full Professors	9

Table 1 - Demographic profile of participants (N = 62, but 3 participants interviewed twice)

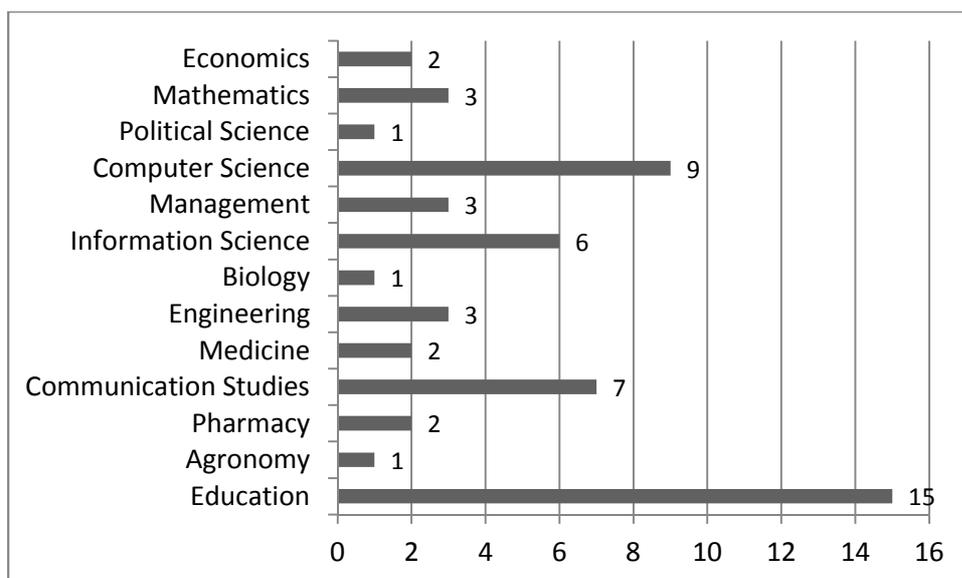


Figure 1 - Disciplinary affiliation of academics

A purposeful approach to preliminary informant selection was deemed necessary during the first round of interviews to, as Glaser (1978:45) admits, gain rapport with “knowledgeable people to get a line on relevancies and leads to track down more data and where and how to locate oneself for a rich supply of data”, whilst maximizing “the possibilities of obtaining data and leads for more data in their question”. During this stage, 14 academics of Portuguese Higher Education Institutions were interviewed (3 of which held concurrent responsibilities as e-learning administrators, 2 as e-learning strategists, and 2 as governmental officials). In the course of data analysis conducted during the first interview round, the researchers have found that emergent theoretical propositions related to academics’ e-learning appropriation pathways could be refined and modified through comparison with other cases. This acknowledgement consequently dictated the decision to refine and extend the sampling strategy, basing the procedure on analytic grounds.

As the study developed into a second round of interviews, theoretical sampling - employed as an inductive, systematic approach to extract theoretical formulations out of informants disclosed cognitions followed by validation and consolidation, i.e. the initial theoretical constructs were used in this stage to guide further data collection.

Theoretical sampling is defined by Strauss and Corbin (1998:73) as “sampling on the basis of emerging concepts, with the aim to begin to explore the dimensional range or

varied conditions along which the properties of concepts vary". This means that as the research analysis develops initial concepts and categories, the further selection of informants was dependent on constant comparison, i.e. the iterative analysis of previously collected data and the needs of emerging theory.

The process involved recruiting additional informants for interview and collecting additional data to examine provisional categories, understand their interrelation and to ensure their fit and representativeness. During this second stage of data collection, a total of 51 academics were interviewed.

In both stages, interviews were digitally recorded to "protect the fluency of the interview conversation", and to ensure that an "accurate and intact interview recording was the foundation for detailed data analysis" (Patton, 2002: 380-381).

Data collection and analysis coexisted until no new open codes emerged from the data analysis. This indicated that theoretical saturation had been achieved (*vide* Section 3.2.3.8).

It is important to note that researchers using "theoretical sampling cannot know in advance precisely what to sample for and where it will lead" (Glaser 1978:37). While a purposeful sample was selected at the outset of this study during the pilot study stage, theoretical sampling progressively and systematically tailored the process of data collection to serve the emergent theory, during the main study stage. In this sense, theoretical sampling served the purpose of explicating and refining the emerging theory.

However, as in every research project, there was the unavoidable need to begin sampling somewhere, and the literature does recognise that defining a point of departure (Walker & Myrick 2006) is important. Coyne (1997:625) argues that researchers must indeed "have some idea of where to sample, not necessarily what to sample for, or where it will lead". It is then acknowledged that theoretical sampling involved a deliberate choice of academics that were involved in e-learning and could therefore contribute to a meaningful and practice informed discussion. It was also decided at this point not to establish any disciplinary profile, as it was understood that the type of problems addressed in this study were not discipline-specific.

The strategy for theoretical sampling relied on pursuing referrals made by early informants to potential study participants that in turn were also recognised e-learning

practitioners. These referrals often crossed disciplinary boundaries, as previously shown in Figure 1.

Finally, in order to guarantee contextual consistency and limit excessive variability of responses, it was decided to focus the study on Public HEIs since they represent the traditional Portuguese Higher Education sector¹. The other types of institutions are private universities and polytechnics. The latter represent what in the UK is known as Further Education, and therefore can be naturally excluded from this study. Private universities are relatively recent in the Portuguese HE scenario, with the oldest of them being established in 1974. They are traditionally exclusively teaching-oriented organisations, with very little research or practice in e-learning (Amaral and Teixeira, 2000). Therefore, in face of the strategy of choosing experts and practitioners in e-learning, this type of institution was also excluded.

2.2.2.1 Semi-structured interviews

As previously discussed in Section 2.1, Grounded Theory is a systematic and flexible inductive qualitative research methodology defined as “a qualitative research method that uses a systematised set of procedures to develop and inductively derive grounded theory about a phenomenon” (Strauss and Corbin, 1990: 24). The procedures used by Grounded Theory are based on an iterative process whereby the exploration of successive information sources, group and individual accounts shape up a nuanced model of phenomena, continuously enriched by the diversity of conceptualisations. These conceptualisations are the manifestation of individual and contextual circumstances surrounding phenomena, and even non-agenda opportunities that emerge in the interaction with information sources and informants should be used to expand interaction understandings and theoretical constructs.

In the majority of cases, Grounded Theory researchers prefer to interact directly with informants in order to engage in rich dialogues, discussion of meanings and the capture of individual interpretations of reality that allow the crafting of fully fleshed narratives

¹ The latest available statistics (PORDATA, 2013) reveal that in 2011 Public HEIs employed 25.849 academics, against 11.229 academics employed by private HEIs.

required to get to grips with complex social processes surrounding human activity systems. The two main data collection techniques used in Grounded Theory for this purpose are in-depth individual interviews and focus groups.

For the purposes of this research, the mutual presence of several interviewees as required for focus group research could prompt participants to speak from their particular social positions of “involvement in various forms of cultural frameworks and identifications” (Moorley, 1980:26) related to e-learning adoption. This approach, however, could be criticised for being excessively centred on individual cognitive processes, or aimed at extracting clean expressions of individual perceptions, even within the collective framework of a grouping.

Indeed, the research objective is not to replicate the processes of opinion formation concerning e-learning, although the “real material complexities” (Jordin and Brunt 1988:239) of academics as a group is of great importance to understand catalysts and inhibitors of e-learning adoption. In truth, the aim is to identify possible heuristics to advance e-learning penetration in Higher Education settings, according to the perceptions of individuals as vehicles and key agents in the adoption process.

Therefore, I propose that for this purpose and although focus groups “are not, of course, groups in the sociological sense of having a common identity or continuing unit, shared norms and goals” (Merton 1987:555), they still have the strong potential to influence individual expression. I consider that greater fidelity to informants’ core socio-psychological identities and attitudes towards phenomena around them and environments they are immersed in, cannot be achieved through inviting them to join an artificial group of informants. I propose that such groups may in fact constrain informants to reposition themselves in relation to a flow of differing or concurring discourses until some sort of argumentative consensus is achieved. There is furthermore a potentially more damaging risk to the data collection processes: these groups may replicate structural and organisational constraints, or even encourage corporate repositioning and political silences. This could lead to erroneous aggregations of meaning, undesired effects of group pressure, and uncertainty concerning ownership over voice. All of these may result in analytical problems that should be avoided when coding and building theory - particularly within the prescriptive devices of Grounded Theory as a methodology – and reinforce the arguments in favour of individual interviews.

Fielding (1994) and Duffy, Ferguson and Watson (2004) argue that Grounded Theory's underlying symbolic interactionist philosophy implies a predominant reliance on semi-structured interviews.

Nonetheless, despite contributing in-depth data, many authors have challenged the assumption that the result of individual interviews can stand as a clear, accurate indicator of participants' inner experiences. These are not new concerns at all. In fact, Rice (1930) for instance had, very early on in the development of qualitative research, expressed worries that "data obtained from an interview are as likely to embody the preconceived ideas of the interviewer as the attitude of the subject interviewed" and that important information may be withheld depending on the direction and pace imprinted by the interviewer. Furthermore, it could be argued that semi-structured interviews pose power-asymmetry challenges to the researcher, and that at times it may be difficult to fine-tune and channel data elicitation, essentially because the individual participant is in the position to control the amount of information disclosed in responses.

However, I concur with Cassel (1980) and the assumption that an empowered informant will feel in control of the interaction and therefore more liable to engage in free-recall narration of events and processes.

In-depth interviews that develop as conversations between researcher and informant can effectively address, with important level of detail, the informant's "perception of self, life and experience, expressed in his or her own words" (Minichiello et al., 1995:61). A trigger to this process is the collaborative determination of what Charmaz (2002:678) names the "participant's story", which contributes to creating rapport, establishing and fashioning respondent affinity.

As a researcher, I am interested in academics' personal story and in cumulatively locating informants' experience "within a basic social process" Charmaz (2002, 678). Furthermore, I was interested in collecting views and interpretations of experiences that were individually expressed, rather than views that could be altered through social negotiation in a group discussion.

Additionally, according to Charmaz (2002, 676), individual in-depth interviews as a data collection technique "create a tight fit between collected data and analysis of those data", whilst allowing the interviewer – who must embody the skill of an incisive analyst - to follow the lead provided by implicit meanings and interviewee-disclosed substantial ideas.

Accordingly, within a Grounded Theory-based research design, the semi-structured interview becomes a cognitive process that contributes to the interpretation of phenomena's structure by allowing the researcher to discern the convergence of central characteristics across individual interviews, thus reinforcing the trustworthiness of proposed explanatory theories.

Swanson (2001, 77) corroborates this idea, suggesting that in interviews: "the purpose of data collection questions in a qualitative study is to contribute to theory development. In other words, different questions, which change over time, are asked of the participants so that through the analysis of concepts, categories will emerge that will generate theory".

For the interviewer, and although the objective of the research is established in advance, it is not a matter of preconceiving problems or limiting questions: the core problem, as Glaser (1992, 24) purports, will emerge in data collection and consequently dimensions are generated as one progresses in the interview, cross-checking them with emerging opposites and looking for patterns and discrepancies. This unfolding approach to questioning, concomitant with ongoing analysis, will influence questions being asked contributing to the establishment of Grounded Theory's theoretical sampling strategy: "the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them in order to develop his theory as it emerges" (Glaser 1978, 36).

2.2.2.2 Interview guide development

Qualitative research interviews have been defined as "conversation[s] with a purpose" (Burgess, 1982), and as encounters between researcher and informants for "the production of situated accountings" (Baker, 2004). They are not mere reports because they are approached as conversational interaction by a researcher who endeavours to understand the world from the informants' point of view: "I want to know what you know in the way you know it. I want to understand the meaning of your experience, to walk in your shoes, to

feel things as you feel them, to explain things as you explain them. Will you become my teacher and help me understand?" (Spradley, 1979:34).

However, despite being a frequently employed data collection technique (Polkinghorne, 2005), particularly when it is necessary to develop an in-depth understanding of individuals' experiences and perspectives, very little insight is provided into the details and procedures of the qualitative research interview. Specifically in the disciplinary field of Information Systems (IS), several authors agree on identifying the paucity of literature addressing the conditions under which interviewing methods are most effective (Schultze and Avital, 2011:1). Myers and Newman (2007), in particular, critique the absence of IS researchers' reflexivity towards the details of the interview setting and process, which seems to be directly linked to the general failure of the literature in offering clear guidance and solutions for the preparation and operationalisation of interviews.

This section attends to this gap and to the main issues in relation to the practical matters of conducting qualitative interviews for interpretive Grounded Theory research.

The starting point is the epistemological recognition of the research interview as "an interpersonal drama with a developing plot [...] through which meaning is produced and made visible". Therefore, I argue that the researcher is not an invisible agent in this developing plot, and agree with Patton's (1990:279) contention that "the quality of the information obtained during an interview is largely dependent on the interviewer".

The fundamental assumption of qualitative interviewing is that informants are understood as experts of their lives and beliefs, as well as of the meanings they ascribe to experiential life "as it is lived, felt, undergone, made sense of, and accomplished (...)" (Schwandt, 2001:84).

Qualitative interviews engage the researcher and the informant in a meaningful conversation that grants access to personal experiences and to the realms of socially constructed reality. These realms are composed of "scenic details, participants' motivations and intentions, and the web of social relations in which events happened" (Schultze and Avital, 2011:3)". Relying on quantitative methods to understand them would imply reducing the richness of human behaviour to the description of statistical patterns of frequencies, distributions and constructs' interdependent relationships (Brekhus et al., 2005).

Conversely, qualitative interviews are conversations geared to facilitate access to deep accounts of specific phenomena of interest. Informants are invited to produce

authentic accounts about the way they interpret those phenomena, “not for their representativeness but rather on the bases of informedness and ability to communicate with the social scientist” (Campbell, 1990:339), who is trying to understand a research problem. As purported by Kvale (2007:xvii), by means of qualitative interviewing, social scientists are able “to understand the world from the subject’s point of view, to unfold the meaning of people’s experiences, to uncover their lived world prior to scientific explanation”. The most immediate consequence of this approach to collecting data is that, during a qualitative interview, personal meanings are not lost or repressed because informants have the opportunity to tell their story in their own words and in their own way.

This does not mean however that the terms of the research can be rigidly imposed on informants. Holstein and Gurbium (1995) alert qualitative researchers for this issue and against putting interviewees in a passive role. The intentionality of the interview subject should remain preeminent as “the subject behind the respondent not only holds facts and details of experience, but in the very process of offering them up for response, constructively adds to, takes away from and transforms the facts and details” (Holstein and Gurbium, 1995:8).

In epistemological terms, the strength of IS qualitative interview-based research lies in its ambitious undertaking of uncovering “subtleties of process and impact related to the use of information technology” (Trauth, 2001:5) in a variety of settings: organisational transformation resulting from business reengineering; socio-cultures of computer-supported collaborative work; assessment of communication systems, etc. Accordingly, IS investigations that are conducted from a qualitative perspective are a manifestation of the discipline’s maturity and realisation that information systems are fundamentally social rather than technical systems (Hirschheim, 1992, Hunter, 2005).

In reviewing the IS literature, it is possible to find studies embodying solutions that focus on the systemic analysis of functional organisational systems whilst methodologically transcending the typical limits on interpretability conveyed by quantitatively analysed data. These studies elevate the study of systems dynamics to the status of main targets of research. The authors of such studies are interested in understanding IS phenomena, which “emerge when the technolog[ical] and the behavioural interact, much like different chemical elements reacting to one another when they form a compound” (Lee, 2001).

Doherty et al. (2005), for example, express how technological artefacts are both culturally constructed and interpreted, demonstrating how a technology's functionality and in-context use is appropriated to reinforce user perception. But similar research previously conducted by Orlikowski (1992) had already provided rich insights into the role and nature of interpretive flexibility by exploring how technical specificities of an information system can condition its ability to be interpreted flexibly.

The study of organisational contexts of information systems' situated use is further exemplified by Lamb and Kling's (2003:202) research. In their research design, the authors invite informants to speak about information use and data generation practices. They conclude that user agency is "channelled through a complex, multilevel system of networks and organizational affiliations that constitute local and global environments".

But the IS literature offers further examples of the use of interviews to achieve qualitative description, analysis and explanation of the sequence, pattern or structure of the unfolding relationship between technology, users, their practices and the context in which use takes place. Desouza et al.'s (2007) grounded theoretic analysis of technology artifacts post-adoptive behaviour is based on in-depth interviews with twenty software engineers in one multi-national organization. The study contributes to a deeper understanding of the relationship between user innovations and organisational innovations by identifying a life-cycle model that connects the various types of modifications applied to technology artifacts, namely personalization, customization, and inventions.

Another illustration of the use of qualitative interviews in IS research can be found in Chu and Robey's (2008) investigation of changes in learning and work practices associated with the implementation of an online learning system in a Taiwanese hospital. Combined with internal document analysis, twenty-eight interviews were conducted with the top manager, clinical staff, administrative staff, IS project managers, and IS staff to understand the prospects for using online learning, informants' past work and training practices, work pressures experienced, and the choices made regarding work and training.

These studies demonstrate the potential of qualitative interviewing as a powerful data collection technique for the conduct of IS qualitative research. Nevertheless, there is still scope to enhance the discipline's methodological sophistication by engaging in complementary exercises: (i) by providing insight into the variety of interviewing

approaches available to qualitative researchers; (ii) and by reporting about the process of interviewing employed in IS research.

The opportunity to introduce interviewing methods, complemented by a discussion of the “conditions under which they are most effective” to understand IS phenomena was addressed by Schultze and Avital (2011:1). These authors discuss three specific approaches, namely appreciative, laddering and photo-diary interviewing. According to the authors, each interviewing method corresponds to a different approach to the generation of research data.

Appreciative interviewing is described as a retrospective inquiry that reframes lived experience (e.g. a system’s core capabilities, design requirements or success factors) with the prospective endeavour of drawing pathways to ideal situations. Laddering interview is introduced as a technique that uses comparison and contrast to capture and identify the content and structure of individuals’ internal ideas, in an attempt to map the system of personal constructs and its hierarchical relationships. The elicitation of interviewee’s personal constructs through laddering techniques is described by Schultze and Avital (2011:9) as a component of the Repertory Grid method in IS, which “traces the causal paths individuals rely on to structure and make sense of their experiences”. Examples of the appropriateness of the Repertory Grid technique to understand the values that drive behaviour in organisations can be found in Davis and Hufnagel’s (2007) exploration of the technology-in-use frames of fingerprint technicians, or in Napier et al.’s (2009) inquiry into skill requirements for information technology project managers. Finally, Schultze and Avital (2011) discuss the photo-diary interview method, in which incidents or experiences, captured in visual snapshots and annotations by research participants, replace the interview guide. The formulation of questions is situation-specific and based on the researchers’ reading of the photo-diary, which stimulates an empathetic understanding of the interviewee’s sense-making.

However, this dissertation makes a different claim concerning the use of interview guides, since the central argument defended here is that, in the context of semi-structured interviews, interview guides provide a flexible framework for guiding participants in accessing their lived experience and reflecting on it.

In conducting this research, the logical starting point was the careful consideration of the concrete matter of concern that deserves elucidation to start formulating clusters of

associations or topics under which that specific area of concern may fall into. Lofland et al. (2006) advise researchers to identify sources of puzzlement from their own judgement or reasoning and also from the literature. In Grounded Theory research, however, the idea of conducting a literature review is occasionally problematic, since the inductive nature of the method recommends minimising researcher's exposure to bias. In Grounded Theory research, its function must not be the generation of any a priori framework, which is commonly adopted as the theoretical foundation and starting point for data collection and analysis in deductive research designs.

As discussed by Strauss and Corbin (1998:43), although familiarity with the relevant literature may interfere with the researchers' analytical capacity, it can also enhance their theoretical sensitivity. Theoretical sensitivity is crucial for theory development, as it refers to the ability to capture subtle nuances in data, generate concepts from data, and relate them according to models of theory in general (Glaser, 1978). Furthermore, and as argued by Bowen (2006), an initial literature review can "provide starting points for building analysis to produce a grounded theory", and "give the researcher a sense of how observed instances of a phenomenon might fit within conceptual categories". Consequently, a general review of the literature took place at the beginning of the research project to provide background knowledge for the global sorting and ordering of the topics that composed the interview guides (*vide* Appendices 1 and 2 for interview guides used in data collection).

This does not mean that the interview guide became "a tightly structured set of questions to be asked verbatim as written, accompanied by an associate range of pre-worded likely answers. Rather, it operated as of things to be sure to ask about when talking to the person being interviewed" (Lofland et al., 2006:105). A tightly structured format is typical of questionnaires or interview schedules used in survey research. Interview guides are less formal and structured, there is flexibility in their composition and the researcher is responsible for crafting the intentionality and the wording of questions, according to the context of the conversation and based on responses to previous topics. As argued by Turner (2010:755-756), the interviewer "remains in the driver's seat with this type of interview approach, but flexibility takes precedence based on perceived prompts from the participants".

Nevertheless there is some usefulness in identifying the questions researchers commonly ask to understand social phenomena. Although recognising that "any particular

topic might invite an array of questions” Lofland et al. (2006:144) identify common trends that proved particularly useful in conducting this research: (i) opening questions that call for the depiction of a phenomenon’s defining features; (ii) questions about how frequently and how intensely something is observed; (iii) questions concerning how phenomena are structure and how they evolve in time; (iv) questions addressing cause and consequence relationships; (v) and questions that request elaboration on individuals’ strategies, actions and courses of action towards specific contexts or scenarios.

A consideration of these elements provides focus to the interview guides, whilst preserving the researcher’s adaptability in getting information from participants, particularly whenever it was possible to follow a lead or when the interviewee identified a specific concern about something.

Another important contention is that the researcher must continuously adjust the interview guide to the interview circumstances, and highlight emergent fragments to test the explanatory power of discursive categories through note-taking. Getting to know the richness of informants’ accounts asks from the researcher the capacity to (i) develop focused awareness, (ii) accompany informants’ narrative, (iii) be guided by their lead, (iv) and employ particular attention to their meaning making. The dynamic processes of informants’ thinking should be stimulated and fully credited, because only they can allow significant content to emerge.

The research conversation therefore concentrates the possibility of accessing the implicit world of meaning (Charmaz, 2006) through a shared attempt of making situated experiences explicit. Dewey (1938:67) reminds us precisely of this situated nature of cognition, which occurs in relation to something – an event, a process, an “object (are) always a special part, phase or aspect, of an enviroing experience world”. Only in the course of conversation can these levels of understanding be achieved.

The generative capacity of the research interview is what makes such levels of understanding accessible. Therefore, it is the investigator’s mission to open up “the meaning of the other person, continually questioning one’s own interpretations so as to be available to new interpretations” (Binding and Tapp, 2008:123), thus achieving interpretive understanding.

The interview guide emerges as a tool which helps the researcher move in into an inductive appraisal of informants’ data – not at lazy listening level, because the recorder will

register and replay surface meanings of words, but at a deeper meta-cognitive level, requiring action from the interviewer as the interview is taking place.

Eliciting data with a qualitative interview guide is not, however, a determinist exercise: despite being initially worded as to let the informant understand the interview focus, questions contained in the guide do not constitute a rigid pattern, sequentially targeted at extracting expectable information.

The interview guide exists to encourage the informant to express their knowledge broadly and freely, and is gradually tailored to provide specific data on the main topic, with the use of probes and prompts, which deepen informants' level of reflexivity and act as scaffolding to the process of developing theoretical sensitivity. Therefore, in the course of interviews, questioning was directed at discovering, exploring and connecting disclosed data until incidents and their properties were framed, compared and conceptualised.

This foundational act of questioning sets a shared stance of openness – both for interviewer and interviewee – who must be willing to encounter new possibilities created by discourse, because “when a question arises, it breaks open the being of the object, as it were” (Gadamer, 1989:362).

The encounter with such objects and the reconstruction of the cognitive traces that shape them take time to extract and the interviewee should be given an enabling environment, considerate of personal pacing, to access inner processes, and to recognise and verbalise the complex experiences being requested in the conversation. Overall, the interview process should look for “dynamic hypotheses – stories about how dynamic systems work”, whilst testing those hypotheses by having the informant disclosing more “specific information, or presenting the developing causal story” (Luna-Reyes and Andersen, 2003:281).

As Gadamer (1989:383) argues, whatever emerges in conversation comes to existence and holds the potential of revealing aspects of the phenomenon under scrutiny. Understanding it is “an event that happens to us, it allows something to emerge which henceforth exists”.

2.2.3 Data analysis

Pursuing the successful strategy reported by Zhou (2011) in the context of data collected in Chinese healthcare institutions, and avoiding “the potential for miscommunication [that] increases when researchers move out of their native language and culture” (Esposito, 2001:578), the researcher decided that the data should be preserved, coded and analysed in its original language (Portuguese), but that the results of data analysis would be expressed in English.

In keeping with Grounded Theory’s prescription for iterative data collection and analysis through constant comparison, after each interview the respective audio file was transcribed, and the researcher began the search for codes and their frequency, and attempted to identify emergent properties and the specific conditions of the context within which they occurred.

The analysis continued by comparing the attributes of preliminary codes and categories to those emerging in subsequent interviews, contributing to the progressive formalisation of theoretical constructs, as the researcher established connections.

The following sections provide detail about the data analysis processes and the tools employed in the study.

2.2.3.1 Coding

The establishment of codes is where the true analytical process begins, with the application of questions to the data, which allow the constant comparative approach to flow and help maintaining a research focus. These questions, as outlined by Glaser (1978:56-57) are: what is this data a study of? What category, or property of a category, does the incident indicate? What is happening in the data? Despite being proposed by Glaser, their applicability will be mainstreamed to the coding strategy adopted in this study.

Essentially, the researcher should be aware that coding is not equivalent to a laboratorial exercise of variable isolation. Codes exist in relation to other codes, so the

codification of sentences or paragraphs should allow the identification of major themes; foster the understanding of informants' major concerns and increase the researcher's theoretical sensitivity.

Open coding was the initial step of analysis during which the utterances in the data are grouped under initial codes to assist examination, comparison and observation of patterns of similarity and difference. Strauss and Corbin (1998:101) define open coding as the "analytic process through which concepts are identified and their properties and dimensions are discovered in data".

This opening of data into initial units of meaning occurs by conceptualizing and assigning properties to incidents (Strauss and Corbin, 1990:63). It sets in motion the process of constant comparison, which is present throughout the analysis, and reinforces the elliptic nature of grounded theory building, in which data builds upon itself – from initial codes and moving up towards higher order constructs, where theory development is the ultimate stage.

What is at stake during open coding is an analytic stance to the text, in which the researcher systematically discovers relevant dimensions and the underlying aspects of causality through classifying and categorising the phenomena taking place in the specific social world. This significant step is the foundation for further analysis.

After a category is identified, the researcher develops it in terms of the properties and dimensions that distinguish it, reducing data to concrete and representative labelling concepts. This procedure will assist the formulation of patterns and variations across the data. Also at this stage, emerging codes must be compared and contrasted for similarities and differences within and across interviews.

The second stage of analysis consisted in the process of relating categories to their subcategories and to the conceptualisation of how substantive codes and categories relate to each other as hypotheses to be integrated into a formalised theory. This stage is referred to as axial coding and it is defined by Strauss and Corbin (1998:123) as "the process of relating categories to their subcategories and is termed "axial" because coding occurs around the axis of a category, linking categories at the level of properties and dimensions".

If during open coding the researcher was confronted with fractured data, in axial coding the challenge was to reassemble data through having a sense of how categories relate to form a complete explanation about the phenomenon. In Strauss' (1987:64) words,

the analyst achieves this by building up “a dense structure of relationships around the axis of the category being focused upon”.

This stage of the coding process is referenced earlier by Glaser and Strauss (1967:40) as an effort to relate categories not merely at a descriptive level but rather at a conceptual level: “in the beginning, one’s hypotheses may seem unrelated, but as categories and properties emerge, develop in abstraction, and become related, their accumulated interrelations form an integrated central theoretical framework – the core of the emerging theory”.

During axial coding, Strauss and Corbin (1998) advocate the use of the paradigm, an analytic stance that interrogates conditions (causal and contextual); actions and interactions (inter and intrapersonal level), and consequences. In using the paradigm to axial code, the researcher is able to systematically align data to integrate aspects of structure and process as constituents of the phenomenon under study. Structure refers to the web of circumstances surrounding the phenomenon. Process refers to the action and interaction of agents over time in response to the phenomenon. Both structure and process are interwoven and only an understanding of their relationship can allow the researcher to capture the character of phenomena as they unfold.

Selective coding was the final step in the analytical *démarche*, and simultaneously the most abstract. Referred to by Strauss and Corbin (1998:143) as the “process of integrating and refining the theory”, it corresponded to the stage in which the researcher constructed a core category that links all other categories.

The discovery of this central category represents the product of all the analysis and should indicate “what the research is about” (Strauss and Corbin, 1998:146), holding moreover the ability to condense all other categories under an explanatory whole able to explain variations within them. This should occur logically, denoting no forcing of data and a consistent flow of explanation that evolves by relating categories progressively and as a result of the researcher being immersed in a cumulative body of analysis and comparison, recorded in memos and diagrams.

According to Strauss (1986:36), there are six fundamental criteria to ensure the core category emerged from the data, determining its properties and clearly relating to other categories:

- (i) the core category must be “at the heart of the analysis”, operating as a hub or catalyst of all other categories’ properties and dimensions;
- (ii) “the indicators pointing to the phenomenon represented by the core category” are recurrent and form a stable pattern traceable to all other categories;
- (iii) the core category relates easily to other categories through frequent and clearly identifiable connections;
- (iv) the core category of a substantive theory “has clear implication for a more general theory”;
- (v) the level of analytic work employed in the construction of the core category is ancillary to the development of a working theory;
- (vi) the core category caters for all the variation expressed by the diversity of dimensions, properties, conditions, consequences and strategies transparent across data.

The recognition of the central or core category is aided by reviewing the properties of concepts alongside with their dimensions as noted in memos (*vide* Section 2.2.3.7), and by translating the density and complexity of the theory into analytic stories. At this point, the researcher used the conditional matrix (Strauss and Corbin, 1998) as a framework for the emergent theory, and as tool to demonstrate the interplay of conditions, consequences and subsequent actions and interactions (*vide* Section 2.2.3.9).

In summary, the process of coding was based on the following. The researcher began by coding incidents into as many categories of analysis as possible, immediately thriving to think in terms of theoretical properties, dimensions, conditions and relationships to other categories. The analysis then moved from comparing incidents in the data, to comparing incidents and their fit within categories. It was this fine grained analysis that allowed the increasing refinement of sub constructs and constructs, and the gradual development of theory until the researcher was confident that the available set of tentative concepts subsumed by the categories is satisfactorily integrated.

2.2.3.2 CAQDAS

According to Wicham and Woods (2005), the use of computer aided qualitative data analysis software (CAQDAS), “initially developed to enhance the accessibility of qualitative data by overcoming the physical limitations of paper data records”, has evolved to accommodate the specific requirements of qualitative data analysis. This sentiment is common across the writings of other methodology theorists, in particular Bryman (2008) - who stresses that these tools remove to a certain extent some of the tediousness inherent to manual coding and retrieving of data – and Hwang (2008:524), who argues that qualitative data analysis software introduces the practical benefit of saving time, making the “work easier to manage, especially for large sets of data”.

Following the arguments advanced above, the rationale for using CAQDAS in this research is furthered by the literature’s emphasis on the importance of an efficient and well-structured data management system to track, access and document the data available and the analysis applied to it (Gibbs et al, 2002; Huberman and Miles, 1998). Furthermore, the reporting of previous experiences confirms that this type of software is compatible with the Grounded Theory methodology, and provides powerful functions to support the practice of coding (Fernández, 2004).

Accordingly, the inputting of interview transcripts into ATLAS.ti allowed the assignment of codes to interview transcripts, although that process had been previously performed manually. In practical terms, this means that ATLAS.ti was useful for data management and supporting the coding process.

ATLAS.ti was used in its functionality as data management system, facilitating the electronic storage, search and retrieval of qualitative data. Moreover, it has made the researcher more aware of the saliency of the codes. A screenshot of the programme’s interface is depicted in Figure 2, where it is possible to discern how the system facilitates the assignment and retrieval of codes to representative citations in the interview transcripts.

This restricted use – ignoring the functionalities of multiple visualisation and automatic extraction of visual representations - avoided the pitfalls of placing too much emphasis on superficiality and fragmentation, which could isolate data from the

researcher's "constructions and interpretations" (Charmaz, 2000:521). Such dangers were also largely avoided by combining the use of ATLAS.ti with a diverse array of analytical tools: the code definition list (*vide* Section 2.2.3.4), the quotation list (*vide* Section 2.2.3.5), memos (*vide* Section 2.2.3.6), concept maps (*vide* Section 2.2.3.7), and the conditional/consequential matrix (*vide* Section 2.2.3.8).

Furthermore, this type of use is consistent with Fielding's (2002) observation that while the functionality of CAQDAS programmes has increased significantly since their inception, researchers value mostly the facilitated processes of assigning codes to transcripts, and retrieval.

2.2.3.3 Constant comparison

Contrarily to theory that is generated through a process of logical deduction from a priori assumptions, Grounded Theory is the product of systematic and simultaneous collection and analysis of data. The main analytic procedure in Grounded Theory is 'constant comparison', and it allows empirical data to be used both in the development of theory and in the verification of emergent theory. The fact that these two processes occur simultaneously ensures Grounded Theory's "respect [for] the nature of the empirical world under study" (Glaser & Strauss, 1967; Strauss & Corbin, 1998). And this groundedness in the empirical world is, as suggested by Blumer (1969), a fundamental requirement of scientific work.

As previously mentioned in Section 2.2.2, in this study the researcher adopted the comparative analysis technique throughout all data analysis and theory development processes.

More specifically, Strauss and Corbin (1998:98) propose two fundamental types of comparison. The first type of comparison "pertains to the comparing of incident to incident or of object to object, looking for similarities and differences among their properties to classify them" (Strauss and Corbin, 1998:94). Goulding (2002) further explains that this type of comparison is mostly used when exercising open and axial coding.

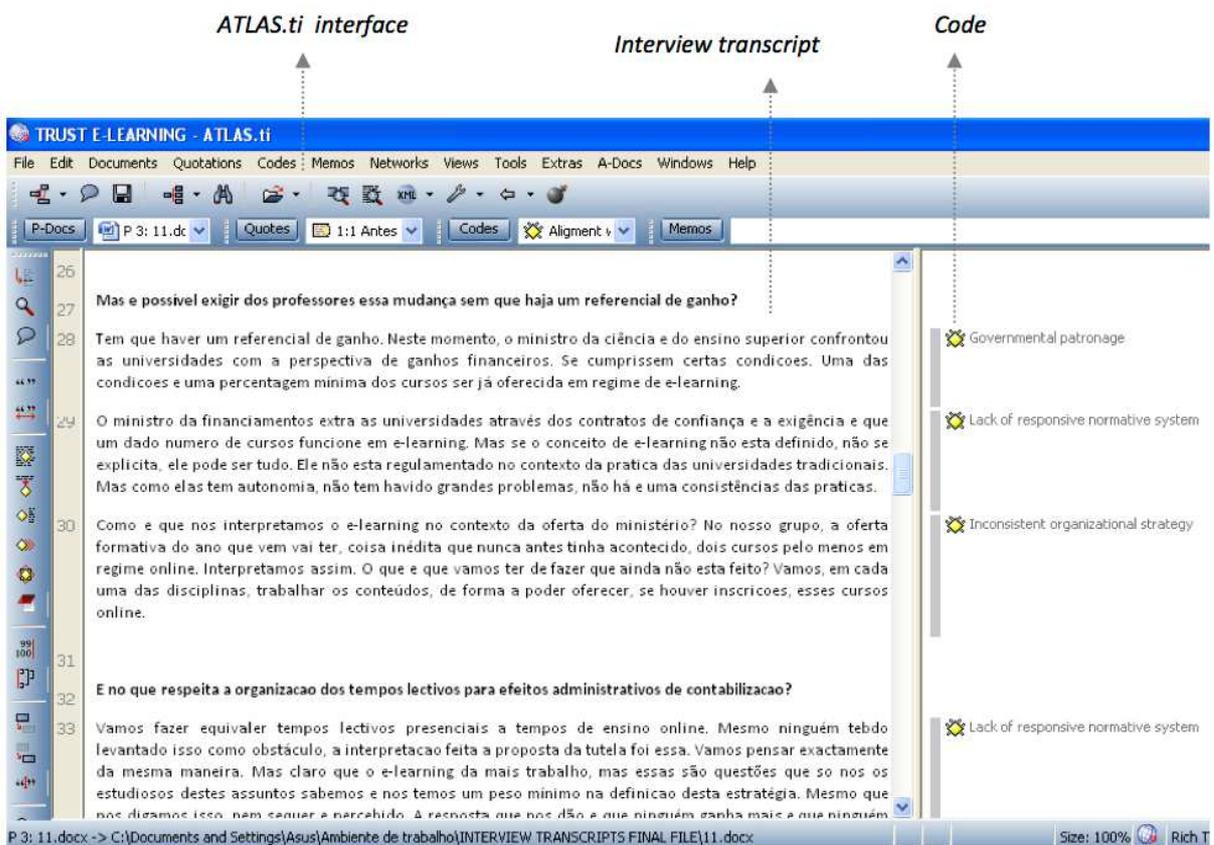


Figure 2 – An example of using ATLAS.ti

The second type of comparison was practiced at an abstract level, as it compares “categories (abstract concepts) to similar or different concepts to bring out possible properties and dimensions when these are not evident to the analyst” (Strauss and Corbin, 1998: 94). This type of comparative analysis was mostly used in axial and selective coding processes (Goulding, 2002).

In order to adequately undertake the comparative analysis process, the researcher adopted a set of practical tools, namely a code definition list (to support the comparison between individual open codes), a quotation list (to support the comparison between individual quotations), memos (to abstract data towards the development and refinement of theory), concept maps (to support comparisons between properties, concepts, sub-categories, and categories), and the conditional/consequential matrix (to establish conditional paths of connectivity between codes and categories).

2.2.3.4 Code definition list

As mentioned in the preceding section, a code definition list was used – in articulation with ATLAS.ti, the quotation list, memos, and concept maps - to facilitate the process of constant comparative analysis. Besides providing a definition for each open code, the code definition list also presented open codes in relation to their categories and sub-categories (*vide* Appendix 3 for a sample). In operational terms this meant that each open code could be clearly represented (and tracked), in terms of both its meaning and in terms of its position in a hierarchy of theoretical abstraction.

Whenever a new code emerged from the data, the list facilitated the the comparison with existing codes and the identification of similarities and differences. Based on this type of comparison – particularly useful during open and axial coding – the researcher could more easily decide whether to merge a code with a similar one on the list, or to create a new code.

2.2.3.5 Quotation list

A quotation list worked hand-in-hand with the code definition list and recorded all quotations related to an open code. An example of the quotation list is illustrated in offered in Appendix 4. The major advantage of this tools is that it allowed an easier comparison between interview quotations. Whenever a new code was assigned to a representative quotation, this quotation was compared with the existing quotations on the list. If quotations revealed divergent meanings, this was a sign that a new code had be created. The quotation list also provided the most appropriate quotations that would later be used in the narrative presentation of findings.

2.2.3.6 Memos

The use of memos was an important part of the data analysis strategy, especially in the effort to (i) explore relationships between concepts and categories; and (ii) to abstract data

towards the refinement and development of theory. Memos progressively increased in theoretical density and level of abstraction as constant comparison amongst codes and categories developed. Furthermore, memos allowed the manifestation of coherently ordered analytic ideas that capture generative thoughts or describe processes in need of further refinement.

One additional feature of memos as analytical tools is their contribution towards organising data and in establishing an ongoing record of evolution in the analytic endeavour. Patton (2002:436) concurs with this approach to memoing, as it entails moving away from raw data towards findings. This process makes a wealth of rich concepts available for reference and for the researcher's scrutiny: "recording and tracking analytical insights that occur during data collection are part of fieldwork and the beginning of qualitative analysis".

Different types of memos have assisted the researcher in grounding theoretical abstractions in data. Accordingly, and following the typology prescribed by Strauss and Corbin (1998):

1. Operational memos were used as a reflexivity instrument, translating the voice of the researcher when confronted with choices pertaining to outcomes of analysis, and how these influence the evolving research design (Smit, 2003). A paradigmatic example of operational memoing is provided by Bringer et al. (2006), who advise the researcher to jot down procedural notes already in the data collection stage, to know "what questions to ask in the next interview". This methodological standing portrays the feature of Grounded Theory's simultaneity of collection and analysis, and requires of the researcher the alertness to detect developing properties and the conceptual dimensions of potentially emerging categories.
2. Coding memos translated the establishment of relationships between concepts. This labelling (Pandit, 1996), related to the development of open coding, derives from making comparisons and asking questions concerning the salient properties of concepts. Coding memos therefore exist to keep track of hypotheses and potential leads that evolve from the analytical process (Corbin and Strauss, 1998). Omitting memo writing from the elaboration and integration of theory would result in underdeveloped conceptual detail and insufficient integrative power of the resulting analysis.

3. Theoretical memos (as exemplified in Figure 3) elaborated on the relationships between interactions and conditions of emerging categories and constitute the foundation to theoretical propositions. This means that the researcher must overcome purely descriptive or observational remarks. What was at stake in this stage was the embryonic development of theory, however preserving fidelity to the overarching principle of comparing concepts against data, in such a way that “proposed relationships become substantiated in that they continue to make sense and offer one possible explanation” (Corbin and Strauss, 2008).

Memo: additional time-related efforts for e-learning development

If governing structures at ministerial level acknowledged e-learning, that would work as an incentive, alongside with a reappraisal of how faculty are recognised and accredited in scientific curricula, how they are evaluated. Until date, what basically matters for evaluation is the number of papers published and the number of teaching hours. If e-learning enjoyed curricular recognition, the resistant staff would buy in into it. But there is no such policy in Portugal. So, how can the time employed in e-learning be measured? Is it worth to discount lectures' teaching time? The perception is that it would be extremely difficult to implement. Quantification remains the problem, because it is hard to measure how much work is involved in e-learning development. Unless the criteria is a universal, equalising estimate for everyone, when in reality different faculty develop e-learning differently. The amount of time it takes to use an e-learning platform is so variable, depending on the type of use, that a precise measure is difficult to estimate. However, it is possible to use time as an incentive without looking at it as a measurable trade-off.

Figure 3 – Example of a theoretical memo.

2.2.3.7 Concept maps

In addition to the analytical tools described above, concept maps were also used to assist the process of data analysis and the organisation of emergent ideas for presentation of findings (*vide* concept maps on Sections 4.1, 4.2, and 4.3). The use of concept maps is encouraged by Strauss and Corbin (1998) as visual a complement to memos. This idea is corroborated by Artinian and West (2009:28), who puport that in showing a tentative diagram of reality as interpreted by the researcher, “the conceptual map organises data into

a probabilistic schema of how variables are related to each other to resolve the main concern”.

In this research, a clear advantage of constructing concept maps was that they narrowed down coding memos to diagrammatic representations that clearly show the relationships of the codes and categories emerging from the data. This has helped the researcher make sense out of variables by providing a structure for organising ideas. Moreover, by mapping the emergent theory with concept maps, the researcher was provided with a clear outline for presentation of findings.

2.2.3.8 Theoretical saturation

According to the principles of Grounded Theory, the criterion for judging when to stop data collection is the attainment of theoretical saturation. In practical terms, this means that individual interviews were conducted until no new conceptualisations emerged from the interview data and when, in the concomitant process of data analysis, no new properties of data were uncovered and no new relationships between categories were manifested. Therefore, emergent theory determined when data collection and analysis was complete. At this point – represented diagrammatically in Figure 4 - the structure of a substantive theory was able to explain all variations across the data (Dey, 1999; Urquhart, 2001).

According to Glaser and Strauss (1967), saturation occurs when no new data is generated to further develop a category or substantiate higher order constructs with additional content. Saturation manifests itself with the recurrent repetition of similar instances or meanings in data. This is observable in the diagram depicted in Figure 3, in which after interview number 31, there was no occurrence of new codes.

Confirming the methods’ commitment to maximising the varieties of data across categories category and to reach “data adequacy” (Morse, 1995:147), Glaser and Strauss (1967:61) specify that the criteria for determining saturation result from the three intertwined factors: “the empirical limits of the data, the integration and density of the theory, and the analyst’s theoretical sensitivity”.

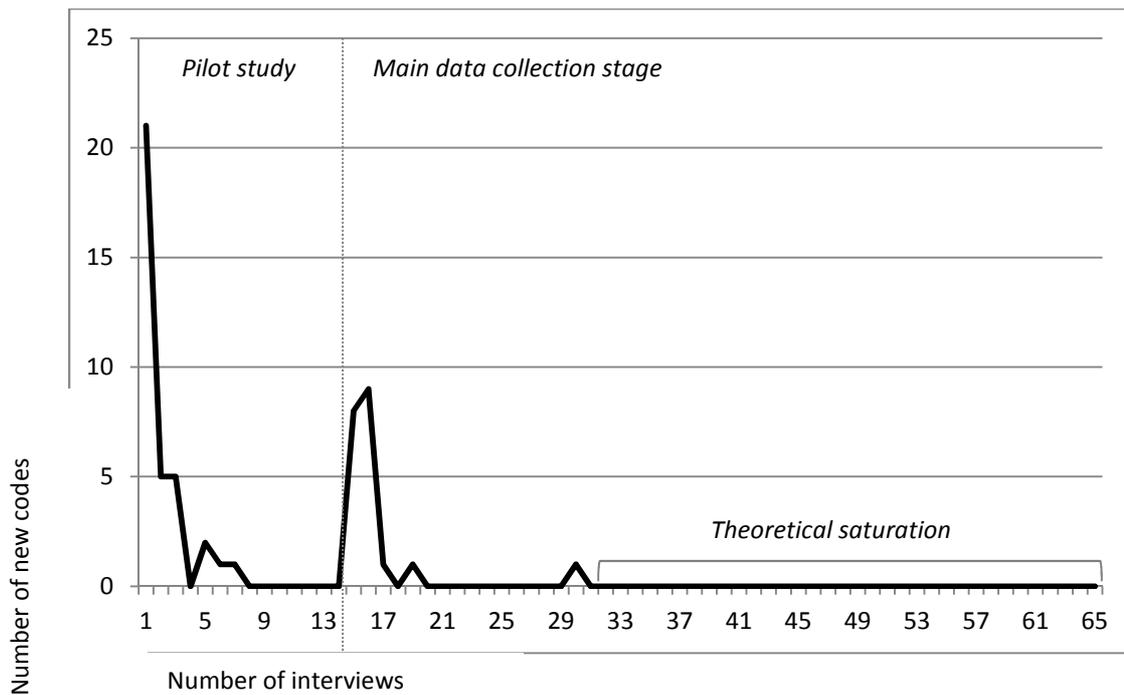


Figure 4 – Coding and theoretical saturation

Strauss and Corbin (1998) concur with the importance of achieving saturation, without which any theory will be ill-founded and conceptually inadequate. They define saturation as “the point in category development at which no new properties, dimensions or relationships emerge during analysis” (Strauss and Corbin, 1998:143), and urge the researcher to carry forth theoretical sampling efforts until no new data emerges and category development is well established. Only when saturation occurs in all categories and constructs can a tentative conceptual framework emerge, based on the adequate understanding of informants’ disclosed information.

2.2.3.9 Conditional/ consequential matrix

The exercise of theory building was diagrammatically supported by the development of a conditional/ consequential matrix where the range of conditions and consequences related to trust in e-learning is to be addressed. More specifically, the matrix will allow the researcher to establish conditional paths of connectivity to track and link the various

conditional and consequential levels that converge into the substantive phenomenon (Strauss and Corbin, 1998).

In terms of practical applicability of the matrix, its analytical potential was explored at two particular moments:

- (1) During selective coding, to provoke thinking about categories' properties and dimensions, to extend the range of possible conditions and consequences at interplay, and to provide direction for theoretical sampling through the development of exploratory hypotheses to be confirmed or disconfirmed by further data collection and analysis;
- (2) In preparation for the narrative rendering of the analysis (*vide* Section 5.1), after the eventual development of the core or central category, to help locating the most salient theoretical threads and relate subsidiary categories to the core category. At this stage, the matrix will also enable the researcher to better present the theory in a coherent explanatory account that traces the intricate web of connections between contextual factors and the processes of action/ interaction (Strauss and Corbin, 1998:191).

Several iterations of the model resulting from the conditional matrix took place until categories were sufficiently dense and developed in terms of their properties and also in terms of dimensional variability, so as to ensure that structure and process - objectified in categories of causal, contextual and intervening conditions, central phenomenon, actions and consequences - fit the data and make conceptual sense. Ultimately, the operationalisation of the matrix resulted in the reconstruction of the conditional paths or course of action (Brown et al., 2002) taken by trust-related incidents through the various levels of the matrix, ensuring explanatory coherence and "interindividual connection of the levels themselves" (Hildenbrand, 2007:543).

2.3 Research stages

As made explicit by the previous subsections in this Chapter, the application of the Grounded Theory methodology was planned according to a three-staged design, namely literature review, pilot study and main study.

The objective of the literature review (discussed in more detail in Section 2.2.1) was to develop theoretical sensitivity on the issue of e-learning adoption in the context of Higher Education. The literature review is presented in Section 3.

The pilot study served the purposes of developing contextual awareness; evaluating the suitability of an inductive approach, and of the Grounded Theory methodology in particular; testing the use of semi-structured interviews as data collection instruments; providing emergent codes to guide data collection and data analysis in the main study.

Finally, the main study stage contributed to developing codes and categories fully and in an integrated way; electing a core category to link near-core categories in order to give shape to the final theory; and achieving theoretical saturation.

Forthcoming Sections 2.3.1 and 2.3.2 provide more detail on the objectives and development of the pilot study and the main study.

2.3.1 Pilot study

Pilot studies are largely under-reported in the qualitative research literature (Sampson, 2004; Whiteley and Whiteley, 2005). This underdevelopment of actionable knowledge concerning the practice of pilot studies is surprising to those who choose to use them to frame questions, collect background information, refine a research approach or tailor efficient research instruments.

The methodological choice for running a pilot study was mainly of pragmatic origin. Despite the scarcity of reported examples, there are a few voices in the literature arguing that pilot studies in qualitative research are paramount in adapting to the situation on the ground, which is unique and varied for every research. And this groundedness seems to be

the very advantage of qualitative research, especially “the empirical leverage it offers on the point of view of those being studied and the sensitivity to context that is especially attractive to researchers in a variety of fields” (Bryman et al., 1996:353).

Moreover, pilot studies hold the potential of minimising problems associated with cold, unreflecting immersion in the field, as Sampson (2004) purports: “immersion in the field without any pre-exposure can provide a researcher with a feast of fascinating information and observations and can result in not knowing where to start”. So after the feast comes the reckoning.

To avoid unpleasant surprises, De Vaus (1993:54) warns: “Do not take the risk. Pilot test first”. This position suggests that a considerable advantage of conducting a pilot study is anticipating the debilities of the research project, namely by controlling the adequacy of protocols, methods and instruments.

Sampson (2004:399) also alerts for the fact that it is “often only when data is evaluated that any gaps in a research design begin to show up”, hence a running a pilot can save time invested in unfeasible projects, “particularly in the context of today’s social science, which is frequently strictly time-bounded and pressurized”.

Reflecting on the nature of pilot studies as applied in the discipline of project management, Turner (2005:5) summarises the learning opportunities the researcher can extract from assessing the feasibility of any study, and presents them as risk mitigation strategies: “learning how to reduce uncertainty in product or process of a project; learning what will work or not in the design of a new product; learning by testing the efficacy of a research instrument”. If we replace “product” by “research project”, it is more understandable how pilot studies increase the likelihood of success in the main study.

Similarly, van Teijlingen and Hundley (2001) offer a list of reasons for conducting pilot studies, amongst which are: “developing and testing adequacy of research instruments; assessing the feasibility of a full-scale study; designing a research protocol; (...) collecting preliminary data; assessing the proposed data analysis techniques to uncover potential problems; developing a research question and a research plan; training a researcher in as many elements of the research process as possible”.

To these advantages we would add the possibility of establishing whether or not the sampling frame is theoretically relevant. Also, substantive data extractable from pilot

findings can be used to design following stages of data collection, thus reinforcing the researcher's audit trail and enhancing the rigour of qualitative research.

Such an achievement confirms Silverman's (2000:35) assertion that in qualitative research, "what happens in the field as you attempt to gather data itself is a source of data rather than just a technical problem in need of a solution".

For this matter, pilot studies are an invaluable source of contextual data, which have the ability of moving the researcher into the phenomenon's ecology and into the core of respondents' accounts, thus partitioning the broad research topic into workable, theoretically-relevant conceptual units.

Whitheley and Whitheley (2005:10) seem to corroborate this idea by claiming that through pilot studies, insight can be gained about how to choose among different approaches: "the notion of a familiarisation study entails visualization of the proposed research context in such a way that recognition is made that very often, the researcher's knowledge of the context, that is the *inside* environment, can be improved".

The ethnographic method clearly asserts the primacy of context in the exploration and analysis of frameworks of interaction, by describing how elements of the context "help fix the interpretations that each protagonist gives" (Weber, 2001:485) to events. This occurs through the immersion of the researcher in the heart of a culture and requires them to "enter into the matrix of meanings of the researched, to participate in their system of organized activities" (Wax, 1980:272-273).

Furthermore, contributions coming from the discipline of ubiquitous computing (Coutaz et al., 2005) help to understand the nature of context, by regarding it as an interactional process, in which mutable environments are composed of "reconfigurable, migratory and multiscale" conditions affecting roles, relations and entities. For this reason, context must not be regarded as a stable set of variables.

On the other hand, Grounded Theory's *modus operandi*, focuses on the incremental interpenetration of data and analysis. This approach requires of the researcher to adopt an openness necessary to "allow conditions of the field or interests of the informants to guide foci" of the investigation (Snow et al. 2003:187). The pursuit of an exploratory inductive move towards the discovery of middle range theories and explanatory propositions through coding and emergent constant comparative analysis of empirical data is Grounded Theory's *demarche*.

For this reason, when endeavouring an understanding of phenomena to compare issues and interrelationships, Grounded Theory provides a sufficiently open approach that invites data material to speak and subjective manifestations to come forth.

However, the drive in the iterative open coding process that characterises Grounded Theory is to produce an emergent explanatory framework that explicates the phenomenon being studied, rather than the context in which it is rooted. The understanding of the context is facilitated during (or after axial coding) through the use conditional relationship guides and reflective coding matrixes (Scott and Howell, 2008; Charmaz, 2003, Schatzman, 1991).

This approach may result in very long processes and iterative cycles of data collection and analysis as the categories that characterise both the phenomenon being studied and the human-activity context where it occurs are expected to emerge from the same data collection strategy and focus.

Accordingly, a pilot study stage was included in the research design of this study, with the objective of eliciting information and open codes to characterise the context. This pilot study preceded the main Grounded Theory procedure. On the other-hand, coding in the main research stage resulted in categories that supported the understanding and development of integrated theoretical explanations of the phenomenon being studied.

2.3.1.1 Developing a refined research focus: Towards an understanding of trust as a theoretical aggregator

As previously mentioned in section 2.2.1, given the broad and multifaceted nature of the e-learning subject area, the research project started with a review of the general literature on e-learning in HE. This effort of theoretical sensitisation was valuable in understanding the ways in which individuals currently engage with and use e-learning in universities in general, but limited in explaining academic perceptions, attitude formation and knowledge processing of e-learning in HEIs. In other words, the literature is prolific in identifying particular modes of use, advancing related underlying pedagogical models, and in

scrutinising the factors that determine the successful implementation of educational technologies.

However, serious utilisation problems persist due to the deficit of actionable knowledge regarding academic's reasoning, decision making and cognition on e-learning issues, that is, what determines their choice for e-learning, and which knowledge creation and dissemination cycles are concurrent to their symbolic, conceptual and instrumental use of e-learning.

This configures a relevance gap primarily addressing the conceptualisation of academic's use of e-learning as a purposeful endeavour. Only a map of associations bringing together critical enablers that foster clear and meaningful purpose in using e-learning can elicit academics' meta-cognitions, whilst providing a theoretically-informed, empirically-grounded conceptualisation of e-learning's embedding process on the teachers' side. Such a map can offer a theory of sources of influence on academics' perception and help understand, from an organisational perspective, how e-learning products and services can be best accommodated to improve the competitive position of universities.

To achieve this map, running a pilot study to assess the Portuguese context was deemed necessary. The subject matter itself defined the initial boundaries of a relevant informant sample comprising e-learning experts – 14 academics (of which 3 e-learning held concurrent responsibilities as e-learning administrators, 3 were e-learning strategists, and 2 occupied senior level positions at the Ministry of Science and Higher Education). Informants were moreover affiliated with Portuguese Higher Education Institutions at different stages of their e-learning strategy implementation: two universities are recognized precursors of e-learning institutional embedding at national level; one university is acknowledged for realizing technology-based spinoffs with the community; and three other universities were chosen for the comparatively less visible dimension of their e-learning embedding planning.

Open coding (*vide* table 2 for detail) of interviews conducted during the pilot study stage revealed that:

- (i) Academics' appropriation is best achieved when change introduced by e-learning is not vertically imposed by top management structures, but rather when it develops spontaneously through small scale projects, influence of champions, or teachers' enhanced individual capacity;

- (ii) Career and reward systems for academics engaged in e-learning suffer from an effort-reward imbalance. The current compensation system is not designed to foster the scholarship of teaching; it is inattentive to the core competencies and the nature of tasks at stake in e-learning; and it is insensitive to the fact that it is not possible to manage or improve something that is not subject to some kind of systematization and evaluation.

Emergent codes	Clusters of meaning associated to codes
Misalignment with educational strategy	Preferences regarding the introduction of technology supported learning in established academic settings
Unfulfilled autonomy to design learning experiences	
Market-driven adoption	
Definitional profusion	
Governmental patronage	
Perceived lack of relative advantage	
Intrinsic motivation	
Monolithic academic culture	
Resistance to innovation	
Student-centred learning	
Reputation risk	
Past experiences of failure and conflict	
Occupational mindsets	
Unrealised pedagogical value	
Unrealised managerial and delivery efficiency	
Unprepared students	Disconnection between the nature of teaching online <i>vis-a-vis</i> academics' career regulations and available reward structures
Increased visibility	
Lack of a responsive normative system	
Prejudice	
Lack of recognition	
Insufficient reward	
Temporal frames of work	
Misconceptions of successful adoption	
Insensibility to pedagogical strategies	
Perceived incompatibility with work rules and regulations	
Epistemological disagreement	Introduction of disruptions to academics' workload patterns - conflicts with dominant modes of delivery and entrenched organisational practice
Erosion of high status professional identity	
Inadequate specialised services	
Lack of organisational homophily	
Inconsistent organisational strategy	
Insufficient incrementalism	
Lack of functional and technical expertise	
Pervasive research culture	
Underestimated organic development	

Table 2 - Open codes extracted during the pilot study stage

- (iii) There is a limited understanding of time and its components in distributed educational settings such as those afforded by e-learning environments. Emergent temporal trajectories of academics indicate unregulated and unaccounted for dynamics, mainly deriving from self-generated changes in the approach to teaching, resulting in (1) difficulties to synchronise their temporal behaviour with other actors with whom they interact and (2) time-related consequences cascading across the system, such as disruptions to internal workload patterns and conflicts with dominant modes of delivery, reinforced by entrenched organisational practices or deeper institutional processes.

Iterations in the data generated by the pilot study and the need to integrate the data around a central theme and construct workable hypothesis culminated in the researcher attempting to extract a dominant, convergent category.

The function of this convergent category would be to “weave the fractured story back together again” (Glaser, 1978:72), and to help conceptualise how substantive themes may relate to each other as hypotheses to be integrated into a theory.

The major difficulty pertaining to the conceptualisation of this category lied precisely in achieving a conceptual labelling that fit the data it represented, whilst adequately rendering informants’ meanings. Strauss and Corbin (1994:281) express this concern and alert for the researcher’s mission to “give voice – albeit in the context of their own inevitable interpretations”, to the informants’ stories and perceptions. That endeavour was pursued during the main study, which operationalisation is explained in more detail in the following section.

2.3.2 Main study

Until this moment, the researcher was indeed confronted with a variety of codes, which testified how far the data collected during the pilot study stage could be stretched, providing examples of richness and depth. This diversity however posed the challenge of

“reconstructing a grounded theory that [would be] both dense and significantly analytical” (Charmaz, 2000) and that simultaneously reflected aspects of structure and process.

Bearing in mind that theoretical integration occurs at a higher level of abstraction, the researcher cross-analysed the emergent themes detected in the pilot study’s data. The confines of this corpus directed the researcher into understanding (i) preferences regarding the introduction of technology supported learning in established academic settings; (ii) the apparent disconnection between the nature of teaching online *vis-a-vis* academics’ career regulations and available reward structures; (iii) e-learning’s introduction of disruptions to academics’ workload patterns, which conflicts with dominant modes of delivery and entrenched organisational practice across the university.

These three vectors lead the researcher into conceptualising ‘trust’ as an aggregating construct that coalesces thinking about the process of e-learning appropriation as exposed by academics, namely:

- (i) the way academics face vulnerability and risk involved in e-learning appropriation;
- (ii) institutional responses to augment trust and achieve higher levels of confidence;
- (iii) the trustworthiness diffused by the social system in which academics are embedded, composed of rules, roles and routines;
- (iv) academics’ response and enactment of trust in e-learning.

The pilot study has helped the researcher focus on the issue of ‘trust’ as an organising principle of academics’ e-learning appropriation, as well as on the tensions between outcome uncertainty (as a source of mistrust) and gain-oriented rationality (as a source of institutional assurance). However, this theoretical hypothesis had to be explored and further developed in terms of codes, abstract categories and a coherent integrative explanation.

Clearly, the emergent theoretical propositions related to academics’ e-learning appropriation pathways could be refined (or modified) through comparison with other cases. This acknowledgement determined the decision to refine and extend the sampling strategy, basing the procedure on analytic grounds.

To attain this goal, the main study stage of this research applied Grounded Theory’s methodological precepts of theoretical sampling (*vide* Section 2.2.2) and constant

comparison (*vide* Section 2.2.3.3). At this stage a more focused interview guide was developed (*vide* Appendix 2 for interview guide used during the main study), and used to interview a total of 51 academics from public Universities in Portugal mainland (*vide* Figure 5, which depicts data collection sites). Three informants interviewed during the pilot study stage have been re-interviewed as part of the theoretical sampling process, and in order to support the validity of ongoing coding and analysis.



Figure 5 – Map of Portugal (mainland), with indication of public Universities where data collection interviews took place.

2.4 Research Ethics

The ethical behaviour of researchers has become a cornerstone for conducting effective and meaningful research and has been consistently under scrutiny (Diener and Crandall, 1982; Kimmel, 1988; Davies, 1999). This is all the more valid for qualitative research, particularly because it collects data from people and about people, which may be intrusive of individuals' private spheres (Punch, 2005).

The following instruments and related procedures were set in place to ensure that all research processes were conducted ethically.

A research Information Sheet was provided to participants (*vide* Appendix 5). The main purpose of this instrument was to provide participants with a plain language statement that clearly described the aims of the project and the nature of involvement of participants. Participants were clearly informed of their rights and about the non-risky nature of their participation. At all times the researcher observed the welfare of participants and respected the dignity and personal privacy of individuals.

The Information Sheet included the following items:

- The aims of the investigation;
- A description of what was required of the participants;
- A statement addressing confidentiality and security of information. Details of who would have access to personal information and the purpose for which participant information will be used, including the guarantee that participants will not be identifiable in any published material;
- A statement that participation in the research is completely voluntary, and that participants are at liberty to withdraw at any time without negative consequences;
- A statement about the non-existence of potential risks or harms to participants;
- The contact details of the investigator and supervisor;
- The contact details of the University Registrar and Secretary should participants wish to make a complaint on ethical grounds.

An informed consent (*vide* Appendix 6) form followed from the Information Sheet. Once the participants have understood what they were going to be involved in, they were given the opportunity to provide their informed consent to participate. By signing the informed consent form, participants confirmed that:

- They have read and understood the information about the investigation;
- They voluntarily agreed to participate in the project;
- They could have withdrawn at any time without giving reasons, and that they would not be penalised for withdrawing;
- They were aware of procedures regarding confidentiality (e.g. anonymisation of data);
- The use of the data in research, publications, sharing and archiving has been explained.

Copies of the consent form and information sheet were retained by research participants. Signed consent forms were stored securely by the researcher.

2.5 Research validity and reliability

The issue of research validity and reliability is typically related to the measurements used in research that follows a quantitative design. Nevertheless, qualitative researchers should also be able to demonstrate the integrity of the investigation when appraising the value of the results obtained.

Grounded Theory is characterised by theory generation through interaction with data collected directly from human-activity systems instead of the traditional and well-established positivist method of testing hypotheses from existing theory. This is often subject to criticism, particularly in relation to the prevalent hypothesis driven deductive practices that have traditionally characterised science, leading to misinterpretation of the aims and analytical methods proposed by Grounded Theory and a misunderstanding of its findings. In fact, the qualitative nature of Grounded Theory focuses on the search for meaning to build theory that is not speculative or extracted from preliminary hypotheses.

However, this does not mean that the Grounded Theory inductive theory building

endeavour invites the researcher to incur in a lax or less rigorous behaviour: “the analyst should take as much time as necessary to reflect and carry his own thinking to its most logical (grounded in the data, not speculative) conclusions” (Glaser & Strauss, 1967:107).

In practical terms, this means that the methodology is not interested in predefining the composition of samples for the collection of data, in the verification of variables or in the development of probabilistic relations, as expressed by Katz (1983):

“If we view social life as a continuous symbolic process, we expect our concepts to have vague boundaries. If analytical induction follows the contours of experience, it will have ambiguous conceptual fringes (...). For the statistical researcher, practical uncertainty is represented by statements of probabilistic relations; for the analyst of social processes, by ambiguities when trying to code border line cases (...)” (Katz, 1983:133).

Consequently, we argue that Grounded Theory’s close proximity with qualitative data affords the understanding of complex socio-technical phenomena, but it cannot eliminate the conceptual crossing and inter-relation of meanings that are characteristic of any context-bound enquiry. Furthermore, the inductive generation of concepts entails a cumulative process - not a sequentially fragmented process - whereby the researcher:

- (1) Breaks down data into descriptive categories;
- (2) Thinks theoretically rather than descriptively;
- (3) Evaluates interrelationships. Subsumes concepts into higher order categories that indicate an emergent theory.

This poses the Grounded Theory researcher an additional challenge, because unlike quantitative methods, the reliability and validity of findings does not lie with inserting statistical analysis or appending copies of questionnaires, but on achieving theoretical saturation and conceptual integration.

Nevertheless, as advanced by Bryant and Charmaz’s (2010:33), Grounded Theory

seeks to “produce outcomes of equal significance to those produced by the predominant statistical- quantitative, primarily mass survey methods (...)”, although through stages and processes of a substantially different nature. In the development of the research presented in this thesis, these included:

- (1) “Demonstrating how, why and from where early concepts and categories were derived” by making them traceable to the data;
- (2) Abstracting the concepts and looking for theoretical meaning—“concepts should be sufficiently developed as to warrant an extensive re-evaluation of literature to demonstrate the fit, relationship and where applicable the extension of that literature through the research findings”;
- (3) Presenting the theory, “uniting the concepts and integrating them into categories which have explanatory power within the specific context of the research” (Goulding, 1999:17).

But a more detailed discussion around the issues of validity and reliability in qualitative research is possible with an analysis of the criteria for establishing research trustworthiness, described by Lincoln and Guba (1985): credibility, transferability, dependability, and confirmability.

In Grounded Theory, credibility refers to the extent to which findings accurately represent the data and describe the phenomenon under study (Corbin and Strauss, 2008). For this reason, it is largely embedded in the process of constant comparison, as described in Section 2.2.3.3. In summary, the processes of data collection and data analysis are interrelated, contribute to the continuous verification of data, and continue until each category is saturated (*vide* Section 2.2.3.8, where saturation is described in greater detail). Additionally, it can be argued that regular meetings with the research supervisor during data collection and analysis (e.g. to discuss interview technique; to review coding, emerging categories and diagrams; to develop more refined interpretations) contributed to further enhance the credibility of findings.

Transferability refers to the potential application of findings in different contexts, at a different time, or with other participants (Lincoln and Guba, 1985). It is the responsibility

of the researcher to provide the elements that make judgements on transferability possible for other researchers. These include, according to Lincoln and Guba (1985), advancing explanatory hypotheses with sufficient contextual (temporal, informant-related) support. Chapter 4 provides a thick description of this kind, offering abundant quotes. Section 2.2.2 provides detail on sample characteristics, which can assist other researchers to form their judgement about applicability to other similar groups.

In addition, it is important to reaffirm that the goal of this research was theory-building in a localised context, hence the impracticality of discussing generalisability. However, it is important to consider the resulting theory's explanatory power, i.e. the ability to explain what might happen in given circumstances (Strauss & Corbin, 1998). This study was conducted with academics working in Portuguese HEIs, and findings are based on the descriptions of their experiences of e-learning in this particular setting. Because the theory proposed derives from this specific substantive area, it is narrower in scope and abstraction than formal theories (Corbin & Strauss, 2008). It is not possible to ask of a substantive theory the explanatory power of a formal theory, because it does not aim at producing broad propositions (Strauss & Corbin, 1998). However, the merits of substantive theories lie precisely in their ability to address specifically the context from which they are derived (Strauss & Corbin, 1998).

Dependability is directly related to the consistency of findings, and to ability to explain, in detail, how theoretical conceptualisations were arrived at (Strauss & Corbin, 1998). For this reason, Lincoln and Guba (1985) emphasise the importance of developing an audit trail. The audit trail in this research included raw data (for samples of transcripts *vide* Appendix 7), a list of codes (*vide* Appendix 3), theoretical memos (*vide* example on Section 2.2.3.6), concept maps (*vide* Section 4.1 for the concept map illustrating the near-core category 'Trust to change'), diagrams (*vide* Section 5.2 for the Conditional/consequential Matrix). The existence of this audit trail substantiates the claim advanced by Corbin and Strauss (1990:15) that "a grounded theory is reproducible in the limited sense that it is verifiable".

Being directly related to the existence of an audit trail, confirmability described the neutrality and objectivity of data or, in other words, the extent to which findings are determined by the respondents and circumstances of the inquiry, and safeguarded against biases introduced by the researcher (Guba and Lincoln, 1985). In the case of this research

particular care was taken not to introduce bias in the interview script, the interview process and the analysis.

3. E-learning in Higher Education: a theoretically-sensitising review of the literature

The objective of this review was to develop the researcher's sensitivity to the existing literature surrounding technology-enhanced learning environments in Higher Education, more specifically the challenges and opportunities of online learning environments alongside traditional face-to-face teaching. Furthermore, a subsection of the review addresses the changes underway in the Portuguese Higher Education sector.

The review attempts to examine the concept of e-learning by looking at definitions and explanations, and ventures in exploring issues related to (i) institutional approaches to e-learning mainstreaming; (ii) focuses of academics' resistance to appropriation; and (iv) motivational strategies for academics.

The major difficulty with providing an operational definition of e-learning is related to the use of the term as an all-encompassing catch-phrase that largely designates the application of computer technologies to education in a diversity of contexts: face-to-face classrooms, blended courses, mediated distance-education or purely online learning environments.

Despite the trend surrounding the term - mostly because computer technologies and the internet are enabling individuals to search for information, learn about educational contents and topics of personal interest and to communicate and collaborate with each other (Carliner and Shank, 2008) – e-learning “has not really revolutionised learning and teaching to date. Far-reaching, novel ways of teaching and learning, facilitated by ICTs, remain nascent” (OECD, 2005).

Perhaps what is necessary is a conceptual re-centring of e-learning, as proposed by Bates (2012):

“E-learning is not one ‘thing’, but an historical development and process that means different things to different people. Educational technology has moved from being something that supported classroom teaching and later distance education, to a force for

radical change in our educational systems – but radical change based on the full potential of e-learning is something that still has yet to occur on any significant scale. The challenges for e-learning are no longer technological, but ones of desire, organization and appropriate application based on prior knowledge, experiment, and evaluation. We need innovative teachers and administrators, and thinkers such as Stephen and others, to continue to push the boundaries of what is possible, while at the same time not ignoring the lessons from history”.

Nevertheless, there are voices in the literature defending that e-learning has achieved a level of mainstream provision in Europe, and has become an essential component of the internationalisation and lifelong learning agendas (Amirault & Visser, 2010; Ehlers & Schneckenberg, 2010; Saxena, 2011).

There is also evidence of emergent theories and concepts that attempt to understand and make sense of the changing learning landscape, such as the connectivist theory of learning (Siemens, 2005), Thomas and Brown’s (2011) shared imaginations framework, or the principle of networked learning, defined by Levy (2006:259) as “a particular approach to e-learning that draws on ideas from constructivist and situated learning theories, and places emphasis on dialogical interaction and collaboration within learning communities”.

Certainly the use of new technology, social media and open educational resources will be operate as change drivers in Higher Education, opening up new methods of education, and forcing institutions to innovate and undergo structural changes (Bonk, 2009; Conole, 2009; Johnson et al., 2011; Johnson et al., 2012; Pawlowski, 2012; Richter & McPherson, 2012).

Forecast reports specialising in educational trends emphasise a move towards convergence, logical connectivity, smart devices, and personalised on-demand services as the use of e-books, mobile phones, augmented reality and game-based learning is expected to grow (Johnson et al., 2011; Johnson et al., 2012).

However the challenge of bringing all these elements of innovation into a holistic framework and promoting an understanding of educational technologies in context remains, at least partially, unaddressed (Ehlers & Schneckenberg, 2010; Hopbach, 2010; NAHE 2008).

Despite the existence of consensus around the idea that a “model of sustainable e-learning should be student-centred and grounded on a clear ethical sense of contribution and participation in the shared management of a learning experience” (Teixeira, 2011), changes are slow in HEIs.

Similarly, despite the acknowledgement that the use of technology in flexible ways provides answers to challenges of global sustainability and internationalisation (Ala Mutka et al., 2010), strategic and organisational change issues undermine the uptake of educational technology.

For the purpose of this dissertation, e-learning is defined as the following: “the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaborations” (European Commission, 2001).

Despite being a political definition, and despite being somehow dated, this operational definition is sufficiently ample to describe the use of any online technology in learning and teaching; and to accommodate a diversity of educational modes of delivery: online courses, participation in hybrid courses enhanced with online contents, activities and interaction between students and instructors, or simply the use of the internet to access contents, develop skills or access information.

Being consistent with the definition presented above, Wagner, Hassanien and Head (2008) summarise the key dimensions of e-learning, the extent and the attributes of technology use in course delivery, and the types of processes involved (*vide* Table 3).

In the context of traditional, campus-based universities – the exact context in which this research developed – institutional rationales for blended learning are dominant, mostly because of the flexibility of provision, a better support for learner diversity, perceived efficiency gains, and enhancement of the campus experience (Sharpe et al, 2006).

Lameras et al. (2012:155) advance a similar argument: “as digital technologies become ever more pervasive in the learning and research environments of all academic disciplines, blended teaching is becoming a major focus of interest in universities’ educational development initiatives”.

Dimension	Attribute	Process	Example
Synchronicity	Asynchronous	Content delivery occurs at a different time than receipt by the student.	Lecture mode delivered via e-mail
	Synchronous	Content delivery occurs at the same time as receipt by students.	Lecture delivery via webcast
Location	Same place	Students use an application at the same physical location as other students and/or the instructor.	Using technologies to solve a problem in a classroom
	Distributed	Students use an application at various physical locations, separate from other students and the instructor.	Using technologies to solve a problem from different locations
Independence	Individual	Students work independently from one another to complete learning tasks.	Students complete e-learning modules autonomously
	Collaborative	Students work collaboratively with one another to complete learning tasks.	Students participate in discussion forums to share ideas
Mode	Electronic only	All work is delivered via technology; there is no face-to-face component.	An electronically-enabled distance-learning course
	Blended	E-learning is used to supplement traditional classroom learning.	In-class lectures are enhanced with hands-on computer exercises.

Table 3 – The dimensions of e-learning (adapted from Wagner et al., 2008)

Three broad characterisations of blended learning as it is practiced in HEIs are proposed by Sharpe et al. (2006). They include:

- “(1) The provision of supplementary resources for learning programmes that are conducted along predominantly traditional lines, through institutionally supported virtual learning environments;
- (2) Transformative course level practices underpinned by radical course designs which often make significant use of technology to replace other modes of teaching and learning;

(3) A holistic view of technology and learning, including the use of the learners' own technologies to support their learning".

This description is convergent with a three-layered definition of blended learning previously advanced by Oliver and Trigwell (2005):

"(1) the integrated combination of traditional learning with web based online approaches;
(2) the combination of media and tools employed in an e-learning environment;
(3) the combination of a number of pedagogic approaches, irrespective of learning technology use".

In operational terms, blended learning typically involves experiences of teaching using virtual learning environments (VLEs) in a complementary and supportive role. According to a typology advanced by Lamas et al. (2012:146) VLEs can be used: to support "information transfer and recall"; to support "application and clarification of concepts"; to enable the "development and exchange of ideas, and resource exploration and sharing"; to facilitate "collaborative knowledge-creation and development of process awareness and skills".

However, the successful and sustainable use of this type of systems is highly dependent on a better understanding of how they transform the practice of academics. The emergence of patterns of failure in e-learning implementation is not uncommon (Driscoll, 2008). They revolve mainly around organisational barriers (inadequate support of e-learning efforts); pedagogical problems (programs failing to achieve targets); technical problems; or under-funding of e-learning projects.

But it is the apparent divorce of the e-learning academic literature with learning theories that determines a use of technology in education essentially technology-driven rather than theory-driven (Ravenscroft, 2001).

This very same issue is addressed by Nichols (2003), who calls for the emergence of a new rationale for the implementation of e-learning approaches, based on pedagogical advantages and on the need to "establish theory not evaluation, principles not practice, pedagogies, not applications".

These concerns emerge as academics are growingly being asked to teach online without adequate support, professional development and sufficient understanding of the relevant pedagogical methods. This situation is not compatible with the critical role of academics in developing and delivering e-learning courses.

Wilson and Christopher (2008) describe how academics face several concerns when engaged in situations where e-learning complements traditional on-campus instruction. Amongst the most salient are constraints of time, expertise to teach online, career impact, recognition and reward. For this reason, academics must develop confidence in e-learning and see the personal and professional pay-off for their investment.

3.1 Institutional approaches to e-learning mainstreaming

The transition of Higher Education Institutions to the digital paradigm is not without costs, most of them related to what Laurillard (2007:22) describes as “the immensely difficult task of changing a culture in which the drivers of curriculum and assessment requirements, stakeholder demands, career rewards, and funding models, are all geared to old technologies. In the end, teachers and learners will be behaving differently if digital technologies are to be exploited fully in service of education”.

Institutionally flexible technology-enhanced learning environments that value locally nurtured knowledge and networks of contacts can reduce complexity, organisational conflict and staff anxiety by, as Shurville, Brown and Whitaker (2008:919) argue, providing “institutions and their developers with facilities to adapt and integrate the product with local administrative processes, IT platforms and teaching culture. They should also help universities to join effective federations and partnerships with other institutions, which requires adherence to open standards and tolerance of diverse coding languages and platforms”.

Agreeing on collectively built and shared vocabulary is a good departure point because, as Guri-Rosenblit (2005) purports, “the language used in the relevant literature to

depict the nature of study environments shaped by the new technologies is blurred and confusing". Words act as mandates for action and a common terminology can foster motivation and engagement. Similarly, professional reflexivity is to be encouraged and its informative value should be incorporated in the design of any e-learning institutional strategy, because academics' capacity must be adjusted to new styles of learning and teaching – "academics are expected to become more facilitators and mediators between knowledge bases and students" (Guri-Rosenblit, 2005) – and because they need to be reconciled "to collaborating with colleagues and professionals in designing materials and in the teaching process" (Guri-Rosenblit, 2005).

On the other hand, the expansion of available instructional possibilities faces the obstacle of academics' self-complexity and entrenched conservatism. That is especially the case of more senior staff, for whom "changing mindset and role description to that of a service provider can certainly increase workload and reduce status" (Shurville, Greener and Rospigliosi, 2008:89). An overcoming of this human complexity hurdle can be achieved with an evidence-based challenge of dominant views, but also with a "reframing and development of partnerships across disciplines within the institution" (Shurville, Greener and Rospigliosi, 2008:89).

A complementary transformational pathway operates through training and preparation for the core conditions of person-centred learning, as advocated by Georgina and Hosford (2009:692): "technological literacy training for faculty members (...) reinforces personal interactivity, collaboration, and academic knowledge accrued throughout the course of the faculty's professional life", with significant impact in personal pedagogy choices. It is mostly about acknowledging the reshuffling of social and academic interests introduced by the digital paradigm, and understanding that "the successful and effective transmission and creation of knowledge using e-learning, begs for "a transformation of the teaching fraternity into reflective practitioners" (Njenga and Fourie, 2010:209).

Sims et al. (2004) argue in the same vein, proposing that "a staff development capability is needed so that there are those in the organisation with the knowledge and skills needed to carry the strategy forward".

As McPherson and Nunes (2008:443) argue, somewhere at the crux of institutional guidance and intersubjective pedagogical relations lies the key to successful e-learning appropriation: academics claim for "agreed strategies that result from the dialogue between

top-down e-learning strategies and bottom-up innovation and creativity” and feel more engaged when “motivational issues (are) tackled through interdisciplinary collaboration, good communication, trust and creativity”.

As Snyder et al. (2007:196) note, where e-learning has been vertically imposed “rather than allowed to grow organically”, there was evidence of poor intra-institutional communication resulting in “broad-based hostility towards the innovation enterprise”, accompanied by general resistance to “what was interpreted as a command from the move to online delivery”.

Accordingly, Van Manen (1995:43) considers that a reflective relation must “take into consideration the critical, perspectival, and cultural nature of scientific theories, as well as the implications of the psychological (cognitive) and the social (ideological) genesis of knowledge for the living reality of pedagogical relations”. However, the genesis of that epistemological structure cannot result from the vertical imposition of an e-learning implementation strategy.

3.2 Focuses of academics’ resistance

E-learning overcomes the predominant conventional transmissive pedagogy in Higher Education but this is not without costs to instructors, who need to tailor the teaching and learning settings online to adequately accommodate the flows of content and interaction, and to regulate students’ behaviour against multi-perspectival data. However, only academics’ understanding of the properties of technology and their congruence with educational and pedagogical goals – such as inquiry-based or self-regulated learning – can “help sustain effective research-led academic environments” (Land and Bayne, 2008:680) and “build sustainable educational communities of inquiry” (Garrison and Akyol, 2009:27).

The wider literature on e-learning and instructor’s roles confirms academics’ difficulties in (1) dealing with increased process-related demands of aspects such as making provisions for the negotiation of activities that best meet students’ learning needs; (2) dealing with the flow of content questions and answers from students, which can easily

become overwhelming (de Vries et al., 2005; Kester and Sloep, 2009); (3) and improving closeness and cognitive learning through mechanisms of instructor immediacy (Nagel, 2010:46).

Such time-consuming tasks “intensif[y] the need for co-presence among those who co-ordinate it” (Goodyear, 2006:94), and contradict the false assumption that e-learning can set academics and learners free of temporal constraints (Goodyear, 2006:84). A simple reality-check confirms that, as a result of the introduction of e-learning, a whole new set of responsibilities emerges, pertaining no longer exclusively to student’s skills acquisition and construction of knowledge but also to moderating students’ activity, and creating opportunities for dialogue, interaction and reflection.

According to Goodyear (2006:94), it is the very scattering of activity introduced by e-learning that “intensifies the need for co-presence among those who co-ordinate it”.

Therefore, more than acting as a major inhibitor to the adoption of educational technologies because of a perceived lack of time and increased teaching load (Cavanaugh, 2005; Tabata and Jonhsrud, 2008; Birch and Burnett, 2009), temporal constraints are additionally related to requirements of design, development and delivery of online instruction (Spector, 2005:18), and to the cost-effectiveness of ensuring “transactional presence” – the connected and continuous availability of academics to students’ requests. (Shin, 2002:132).

To counter the impracticality of permanent immediacy, Shi et al. (2006) formulate tools, timeframes and time management strategies to be employed by academics to make online learning efficient and effective. Amongst these are (1) the need to increase the intelligibility of materials by designing easily navigable contents to “minimise student confusion and sense of being lost”; (2) offering guidelines on how to use resources and making nonessential information optional; (3) being emphatic about turn-around times for response, thus establishing expectations of tutor feed-back and availability patterns; (4) and being explicit about participation rules (how often, how focused) in asynchronous discussions.

However, the greatest challenge is, as Mansvelt et al. (2008:579-580) argue, to overcome surface approaches to e-learning, which are the result of staff heavy workloads and insufficient institutional approaches to e-learning development, which fail at fully reflecting “the demands and constraints that working in a digital context impose”.

A lack of guidelines for evaluating online teaching and the absence of supportive institutional response makes online teachers “concerned about how their online teaching is regarded in the context of promotion and tenure” (Spector, 2005). Valuable time can otherwise be allocated to better rewarding activities such as research and publishing.

Because of this lack of institutional rewards and incentives, academics find it uninviting to devote their time to developing e-learning experiences (Loureiro-Koechlin and Allan, 2009), as the need to establish engagement and instructor presence through the definition of course process, evaluation and interaction elements (Baker, 2010:24) is more demanding than the context of traditional face-to-face delivery.

3.3 Motivational strategies for academics

Much of the e-learning literature focusing on academics and e-learning deals with issues of scholarship of teaching, or with motivational strategies that enhance pedagogical impact in higher education practice.

Walker et al. (2008) recognise the imbalance between an increasing recognition of the value of scholarship as opposed to the actual weight it carries in formal reward systems such as tenure and promotion. Reward systems are a reflection of the predominant research-intensive culture and this dominant value system makes it difficult to attract academics into spending time and resources in developing e-learning, especially when they are compensated with symbolic incentives and schemes with a limited impact in a wider institutional environment geared to assign little value to teaching and learning.

This situation is best described by Fanghanel and Trowler (2007:17), who purport that teaching is “generally perceived as second-best even in teaching universities, illustrating that there is still a long way to go before this function can compete on a par for excellence with research”. The very concept of excellence in teaching is disputable and does not benefit from consensual definition or supporting evidencing mechanisms (Gibbs and Habeshow, 2003), although examples of teaching and learning priorities normally focus on

widening participation, co-construction of knowledge, improving facilitation to support students or expanding traditional methods to technology-embedded solutions.

National schemes devised to recognise the achievement of excellent teachers in HEI hold the potential to broaden definitions of research, contributing to a greater appreciation of research and teaching service as interconnected scholarly activities (Skelton, 2005:110). In the UK that is the case of the annually awarded National Teaching Fellowship scheme, although in reality current institutional reward plans which value teaching remain insufficiently founded, resulting in awardees, often the most successful in their institutions, experiencing significant lack of recognition (Frame et al. 2006:418).

This demonstrates that the persistence of instrumental uses of excellence that place higher value on refereed publications still carry prevalence and institutional symbolic power, which ignores the potential value of benchmarks for different scholarship outlets and formats, therefore accentuating promotion and tenure as ultimate goals of a research intensive system of procedures. This procedure is systematically inconsiderate of learning perspectives and philosophies, reflexive didactics or the impact of innovative teaching activities, and seems to be ultimately created to “protect not only the career of the individual, but also the reputation of the institution” (Mullaney and Timberlake, 1994:176).

Similar concerns are raised by Boshier (2009:8), who is apprehensive about universities’ adoption of business deliverables *modus operandi*, promoting a culture of just in time scholarship, detached from universities’ “socioeconomic context and constructing education as a commodity to be sold”.

Countering this commoditisation of the scholarly activity is possible with institutional criteria to assess the quality of academics’ teaching. However, institutional strategies to recognise the skills of the most effective teaching staff are diverse (Warren and Plumb, 1999:252-253) focusing mainly on (1) excellence in delivery (capacity to produce innovative methods and materials that generate critical thinking and engaging experiences); (2) scholarship in teaching and learning (reflective, pedagogical-aware approach to curriculum development and course design); (3) communication skills (essentially collaborative approaches to knowledge creation and dissemination); and (4) student support (adequate support and supervision that stimulates students’ individual inquiry and autonomy in learning).

When engaging with e-learning, academics should be equipped with an enhanced set of skills and attributes that transcends the transference of subject-specific knowledge, in order to successfully meet the possibilities open by online delivery, namely the development of high-order cognitive skills related to negotiation of meaning, meta-cognition and life-long learning (Nunes and McPherson, 2003).

This set of responsibilities involves elements of technical but mainly educational expertise, which offer challenges in the selection and preparation of academics because the evidence of possession of such skills is not certified by the academic or professional institutions that accredit subject matter expertise. As McPherson and Nunes (2004) argue, academics' role in e-learning imply the additional ability to set collaborative learning agendas; moderate conferencing behaviour; provide leadership and guidance to individual learning needs; and organise delivery in such a way that learning objectives are aligned with methods, assessment and expected outcomes.

These new dimensions of the scholarly activity go well beyond disciplinary knowledge and the knowledge derived from face-to-face teaching, emphasising the dimension of social engagement and challenging longstanding assumptions regarding "the way scholarly work becomes public, peer-reviewed, critiqued and exchanged; the ownership of work; and the criteria used to judge its quality" (Benson and Brack, 2009:78).

Despite the additional effort and skills required from academics, elements of mistrust cast shadows over the changing role of academics as online environments develop. Ruiz (2009:51) laments the perception that "e-learning materials are easy to create", when in reality a "substantial investment of time, money and expertise is necessary for producing good quality electronic resources" (Blake, 2009:231-232).

Not surprisingly, this contradiction in terms leads many academics to consider the return on investment of embracing new technologies, despite being "inherently motivated to teach e-learning and inherently motivated to helping their students (Cook et al., 2009:151). It is only legitimate to request their needs to be met by administration and this is the place for extrinsic motivators and tangible reward, but also for the establishment of a "universal set of standards used to evaluate the merit of instructional design" and delivery, which currently does not exist (Sears et al., 2002:1354).

Lofstrom and Nevgi (2007:314) call for the need to define "what pedagogical and technological knowledge is needed for successful teaching in web-based learning

environments”, because virtual environments challenge “the presentation of subject content, the choice of appropriate media, the facilitation of collaboration in virtual environment and the evaluation of the quality of students’ input and learning outcomes”.

Applying the traditional faculty assessment criteria clearly does not suffice for the new educational technologies and HEI must establish mechanisms to act against academia’s lack of trust and familiarity with the demands of e-learning, which can ultimately harm the promotion and career development opportunities of academics committed to creating e-learning resources and activities.

To this regard, Birch and Burnett (2009) indicate that a “perceived lack of reward and a lack of recognition from management and peers had inhibited academics’ willingness to develop e-learning environments”. Similarly, Green et al. (2009) purport that “seldom will faculty participate in activities that take time and resources away from their careers, especially when trying to get tenured at an institution”. In addition to academics’ already overloaded teaching and administrative workloads, e-learning brings to the equation deterrents such as increased time commitments (Carlson et al., 2002; Orr et al., 2009), “lack of tenure considerations, lack of course releases and lack of training and support” (Cook et al., 2009:151).

Consequently, academics’ compensation issues should be part of a pedagogical-aware change management strategy which understands academics’ motivation for engagement, offers recognition for staff commitment (McPherson and Nunes, 2008:442) and responds to reported needs of “personalised support and a deeper dynamics of collective, evidence-based sense-making to avoid situational ambiguity” (Martins and Nunes, 2009).

Sears et al. (2002:1355) describe a collaborative initiative at the University of Alberta to develop peer-reviewed, evidence-based evaluation tailored to assess academics who develop instructional technological innovations in flexible learning environments and “wish to have this work recognised for tenure and promotion purposes”. Other examples of compelling institutional strategies for the recognition of e-learning and combating attitudinal deficits are advanced by Ruiz (2009:51), namely the development of criteria for evaluation of e-learning products by training heads of department and including trained online learning developers in pedagogical committees, so that enough knowledge and

satisfying criteria are available when reviewing educational technology and e-learning activities.

However, a reorientation of universities to scholarly teaching with technology cannot be complete without a re-balancing effort of academics' activities – to comprehend issues of student-centred learning, curriculum design, research-led teaching and self-directed learning – harmonised with “changes in staff recruitment, development, evaluation, promotion, rewards and workload”. It is the alignment of all these factors that ultimately generates impact on academics' perceptions and convinces “staff that there is more than rhetoric in support of good teaching practice” (Taylor and Canfield, 2007:238).

3.4 Organisational Learning

The e-learning related pressures for change presented throughout the previous subsections raise questions about the nature of the learning processes that are associated with organisational change. This issue is particularly relevant since the objectives of this research as outlined in Section 1 foreground the agency of academics as primary authors of e-learning adoption, understood as a process of change and innovation in HEIs.

Consequently, the purpose of this subsection is to examine “organisational learning” as theoretical framework used by organisational science (Huber, 1991) to understand individual and collective learning processes, and their contribution to organisational change.

A comprehensive review of research in this area is beyond the scope of the purpose here, yet the diversity of fields in which connections between learning and organisational change occur - Argyris and Schon (1978); Levitt and March (1988); Senge (1990); Brown and Duguid (1991); Weick and Westley (1996); Easterby-Smith (1997); Gherardi and Nicolini (2001); Boreham and Morgan (2004) - warrant the effort in (1) synthesising organisational learning concepts and practices, (2) reviewing thematic tensions, (3) identifying dominant frameworks, and (4) relating the processes of organisational learning to organisational politics.

The attempt to synthesise organisational learning concepts and practices is in the first instance conditioned by the realisation that most definitions appear to be complementary (Matlay, 2000), although different orientations may suggest a more nuanced understanding of different aspects covered by general principles of organisational management. It is in this vein that Wang and Ahmed (2003) defend a taxonomy of organisational learning according to differences in focus: focus on the transformative potential of accumulated individual and collective learning; focus on a process view that stresses the importance of systems thinking; focus on an understanding of collaborative culture as an enabler of improved performance; focus on a knowledge management perspective; focus on a managerial aspiration for incremental and continuous improvement.

The focus on the transformative potential of accumulated individual and collective learning is epitomised by the assumption of individuals as agents of learning, contributing through experience and interaction to improved performance:

“Organisational learning occurs when individuals within an organisation experience a problematic situation and inquire into it on the organisational behalf. They experience a surprising mismatch between expected and actual results of action and respond to that mismatch through a process of thought and further action that leads them to modify their images of organisation or their understandings of organisational phenomena and to restructure their activities so as to bring outcomes and expectations into line, thereby changing organisational theory-in-use” (Argyris and Schon, 1978:16).

The focus on a process view that stresses the importance of systems thinking draws significantly on information processing stages (i.e. acquisition, interpretation, storage, distribution) and postulates the existence of sequential stages - some emphasising leadership (e.g. Popper and Lipshitz, 2000), some emphasising cognitive processes (e.g. Crossan et al., 1999) - whereby organisations understand and manage experiences (Glynn et al., 1992).

Similarly, a focus on knowledge management is centred on the ability to acquire information, share common understandings that allow the exploitation of knowledge (Fiol,

1994) and the extraction/ derivation of insights (Fiol and Lyles, 1984) with future strategic impact: “learning is the process of linking, expanding, and improving data, information, knowledge and wisdom” (Bierly et al., 2000:597).

A complementary understanding of organisational learning emerges from the cultural perspective, in which collaborative team working and employee empowerment and involvement are presented mechanisms that enable organisations to best utilise knowledge and achieve desired goals:

“A learning organisation should be viewed as a metaphor rather than a distinct type of structure, whose employees learn conscious communal processes for continually generating, retaining and leveraging individual and collective learning to improve performance of the organisational systems in ways important to all stakeholders and by monitoring and improving performance” (Drew and Smith, 1995).

Finally, when improved performance is pursued as a continuous process rather than a single product, we are in presence of an understanding of organisational learning as iterative engagement of employees to incremental innovation, which entails intentional “devot[ion] to the facilitation of individual learning in order to consciously transform the entire organisation and its context” (Pedler et al., 1991).

However, the level of complexity when comparing definitions of organisational learning is not restricted to nuances in focus. Peck et al. (2008) discovered latent tensions in the organisational learning literature, expressed in a series of unresolved dichotomies:

- (1) The place of the individual *vis a vis* the place of the collective, and related contributions to the process of learning and change in the organisation (Lehesvirta, 2004);
- (2) The opposition between learning understood as “acquisition” (e.g. Huber, 1991; Honig, 2008) and learning understood as “participation” (e.g. Boreham and Morgan, 2004). The former is interested in the trajectory through which

cognitive skills develop in individuals, whereas the latter is interested in cultural practices and socially negotiated processes of change;

- (3) The co-existence of normative (prescription-based) and empirical perspectives (descriptive and analytical) to organisational learning.

The normative and empirical literatures on organisational learning do not necessarily need to diverge. The work of Crossan et al. (1999) and later Crossan and Berdrow (2003) represents a successful attempt to formalise specific learning processes within organisations, which operate as resources for the strategic improvement of practice. The widely cited 4I framework (Crossan et al., 1999) establishes four processes by which the individual, group, and organisation levels of organisational learning are connected:

“(...) Four associated (micro) processes – intuiting, interpreting, integrating, and institutionalising – serve to link three levels of analysis and define learning in organisations. Intuiting and interpreting occur at the individual level; interpreting and integrating occur at the group level; and integrating and institutionalising take place at the organisational level”. (Crossan and Berdrow, 2003:1089).

The convergence between normative and empirical perspectives is clearer in the attempt to integrate strategy and organisational learning through empirical research that used the processes formalised in the 4I framework to examine the phenomenon of strategic renewal at Canada Post Corporation (Crossan and Berdrow, 2003).

Further studies have demonstrated the suitability of the 4I framework to achieve a deep understanding of the organisational learning process: e.g. Steven and Dimitriadis (2004) used it to understand the process of new service development in supermarkets and retail banking; Jones and Macpherson (2006) applied it to the context of strategic renewal in SMEs. However, of greater relevance for this review and for the wider context of the research described in this dissertation is the investigation of the political aspects of organisational learning (Lawrence et al., 2005), in which influence (persuasion, negotiation), forceful institutionalisation, domination (by function design) and discipline (involving practices such as recruitment, socialisation compensation, training, and enculturation) are

discussed as strategies affecting the costs and benefits that organisational members associate with the introduction of a specific innovation.

3.5 An overview of the Portuguese Higher Education context

The Portuguese Higher Education sector is undergoing a considerable degree of transformation: “in the last three decades, the Portuguese Higher Education system has been through significant changes, including its rapid massification from a gross participation rate of some 7% in 1974 to over 50% at present (...)” (Rosa et al., 2009:127).

The only signs of stability and historical continuity appear to be:

- (1) Institutions’ reliance on a government-sponsored funding system, which remains a “very powerful steering instrument to implement national higher education policies” (Rosa et al., 2009:127), despite HEIs claims for institutional autonomy and stronger self-regulation;
- (2) A binary organisation, demarcating provision of education and professional careers between universities and polytechnics (Santiago & Carvalho, 2008:209).

Article 3.1 of RJES (Law 62/2007) – a new juridical framework for the governance of Portuguese HEIs - reaffirms this traditional organisation of tertiary education:

“Higher Education is organised as a binary system, with university education oriented towards the provision of solid academic training, combining efforts of both teaching and research units, whilst polytechnic education concentrates particularly on vocational and advanced technical training that is professionally oriented” (Law 62/2007)

However, this new legislation embodies a wide-encompassing transformational agenda by putting in place new models of institutional autonomy at various levels: academic, financial, human resource and real estate management.

The need to imprint such changes was detected by a triple external evaluation undertaken by the Organisation for Economic Cooperation and Development (OECD, 2007), the European Association for Quality Assurance in Higher Education (ENQA), and the European University Association (EUA).

The resulting reports exposed latent problems that reportedly hindered institutional development and the excellence of the national innovation system, such as: the lack of transparency in recruiting, promotions and tenure (OECD, 2007); insufficient evaluation of merit (OECD, 2007); the absence of strategic thinking at system level (EUA, 2013); and an annual budget allocation based on *numerus clausus*, which reinforces ministerial micro-management and inhibits long-term strategic planning (EUA, 2013).

Internally, there were also accumulated symptoms of disaffection with the organisational culture, and with the governance structure of HEIs, with academics lamenting the “deinstitutionalization of the collegial values and culture” (Carvalho & Santiago, 2010:405), and the “lack of fantasy and humour, coupled with traditionalism” as barriers to productive ideas in universities and in the Portuguese society at large (Camara, 2009:53).

The response to these criticisms came in the form of a significant reform of the institutional governance of HEIs. For the first time, “public universities were allowed to make rectoral appointments from outside the institution and were given a governing body – the *conselho geral* – of which 30% was to be made up of external members” (EUA, 2013:15).

RJIES (Law 62/2007) also established a new framework for quality assurance with the creation of a new agency, responsible for academic audit and accreditation of programmes. It also gave HEIs the option of reconverting into foundations – public service institutions governed by private law, and with autonomy to contract at higher level, to hire staff and determine their salary, to set budgets and develop policies, to own property, to aim at making profit.

In addition to this, Decree-Law 214/2006 made provision for the setting of a coordinating council for HE, mandated to elaborate and oversee the implementation of a national strategic plan for HE, in consultation with stakeholders.

In what concerns the use of educational technologies, the Government has engaged HEIs – by means of financial incentives made explicit in extraordinary allocations of extraordinary funding - in the objective of increasing the number of online degree graduates by 15%, between 2010 and 2014.

In terms of infra-structure, HEIs appear to be ready: most “have adopted learning management systems like Moodle and Blackboard and use other solutions including videoconferencing, blogs, wikis, social bookmarking, and podcasting” (Hasan & Laasar, 2010).

Statistical data on the use of e-learning collected by Dias (2010) indicates that in 2010 75.2% of Portuguese HEIs offered an institutional learning management system. However, the same study indicates that only 3,5% of HEIs actively promotes online learning and teaching, the majority of activities reported being the use of platforms as a course content repository.

In a report commissioned by the Ministry of Education and Science, Bielschowsky et al. (2009) recommend the development of blended learning provision across traditional HEIs as a strategic means of recruiting more students, particularly the 1,5 million adults educated at secondary level, who could benefit from flexible, online lifelong learning opportunities.

The literature features several case studies addressing the use of learning management systems at institutional level: e.g. Monteiro (2004) discusses an e-learning framework for ISCTE – Lisbon University Institute; Amaral et al. (2005) report the experience of implementing an e-learning system at the University of Porto; Valente and Moreira (2007) reflect on the use of Moodle at the University of Minho.

However, a holistic picture of e-learning adoption at national level is currently missing, specifically one that voices the concerns and aspirations of academics.

4. Research Findings

In order to answer the research question introduced in Chapter 1 - *What are the individual, strategic and operational factors that impact on Portuguese academics perceptions of e-learning?* - this section presents trust barriers that hinder academics' confident e-learning adoption, and lays the empirically-grounded foundation for the proposed theory that seeks to explain how perceived risks and vulnerabilities can be mitigated in order to allow academics to enact trust in e-learning.

Before moving on to the explanation of findings, it is important to establish that academics' conceptual understanding of e-learning contained in this section refers to the web-based provision of supplementary resources and activities – mostly through virtual learning environments - for courses that are conducted predominantly along traditional lines:

“I am happy with a blended learning teaching arrangement and find that it works extraordinarily well. E-learning complements the campus-based instruction and conversely campus-based instructions' strengths are not obliterated. Teaching entirely online and in real time is a possibility today, but I don't think videoconferencing can serve as a direct replacement to the richer opportunity to interact with tutors and peers on a face to face basis” (Q2:8:6).

Therefore the purpose of this preamble is to avoid ambiguity in terminology, since academics apply the concepts of e-learning and blended learning interchangeably, and to describe the convergent use – within traditional campus-based HEIs - of digital learning environments to facilitate communication, knowledge sharing and knowledge exchange, collaboration and tutorial support between students and tutors.

“I have no doubts about the suitability of e-learning for Higher Education. It is my preferred teaching arrangement because I realise that the preparation and delivery of traditional on-campus teaching is constrained by time frames and limited working facilities. Even if I found it productive

and beneficial, from a student development point of view, to extend the duration of a campus-based learning activity, there are regulations about the length of teaching sessions, which I cannot exceed. Nevertheless it was frustrating to realise that students' learning and personal development opportunities would sometimes be frozen, suspended in time or forever lost because of such constraints. Blended learning brings a conciliatory solution to this problem because the physical dimension of the learning environment is prolonged into a virtual dimension, where activities, discussions and resources are extended and can develop more freely" (Q36:11:18).

To describe and explain barriers to e-learning adoption in a systematic manner, an explanatory model was developed based on the three stages of coding proposed by Strauss and Corbin (1998), previously explained in section 3.2.2.1 of Chapter 3, and now detailed in Table 4. More specifically, open coding developed as a process of identification or mapping of barriers to trust in e-learning, as perceived by academics.

As the level of abstraction in coding progressed, trust barriers were aggregated according to whether they reflected either an agentic or an institutional orientation (axial coding), and then grouped in sequentially progressive levels of trust that culminate in a conceptualisation of trust in e-learning through organisational learning (selective coding). Organisational learning is understood here as organisationally regulated collective learning process in which individual and group-based learning experiences concerning the improvement of organisational performance and/ or goals are transferred into organisational routines, processes and structures, which in turn promotes academics' trusting adoption of e-learning.

Ultimately, the model presented here – and summarised in Figure 6 - conceives e-learning as a means of strategic renewal in HEI. It attempts to explain e-learning adoption as a process. My perspective is psychological-organisational, by simultaneously focusing on the overcoming of individual and organisational behaviours that prevent or hinder e-learning adoption.

SELECTIVE CODING		AXIAL CODING		OPEN CODING
TRUST THROUGH ORGANISATIONAL LEARNING DIALECTICS	Trust to change	Actional-personal confidence		Insufficient intrinsic motivation Definitional profusion Perceived lack of relative advantage Unrealised managerial and delivery efficiency Unrealised pedagogical value Epistemological disagreement Technological determinism Occupational mindsets Student-centred learning paradigm Diverse knowledge bases Ownership and control of knowledge Defensive routines Risk avoidance culture Resistance to innovation Prejudice Erosion of high status professional identity
		Structural-organisational assurance	Strategic	Monolithic academic culture Outdated management-held core values Cost-cutting driven policy Governmental patronage Market-driven adoption
			Operational	Bureaucratic overload and internal fragmentation Measurable goals and performance feedback
	Trust to integrate	Actional-personal confidence		Lack of functional and technical expertise Extended teaching presence Temporal frames of work Unprepared students Self-interest and opportunistic behaviour
		Structural-organisational assurance	Strategic	Pervasive research culture Low learning and teaching-oriented values Lack of recognition Low levels of participation and communication Power structures and relations
			Operational	Perceived incompatibility with work rules and regulations Forced top-down change Insufficient incrementalism
	Trust to institutionalise	Actional-personal confidence		Unfulfilled autonomy to design learning experiences Misconceptions of successful adoption Past experiences of failure and conflict Bounded rationality Reputation risk Increased visibility Leakage of confidential information
		Structural-organisational assurance	Strategic	Fear of administrative control and disciplining Lack of clear mandate for implementation Inconsistent organisational strategy Misalignment with educational strategy Turfism Lack of organisational homophily
			Operational	Lack of a responsive normative system Insufficient reward Intellectual property rights Inconsistency between adoption goals and success criteria to evaluate them Inadequate specialised services Underestimated organic development

Table 4 - Coding stages and the emergence of codes, categories, near-core categories and core category

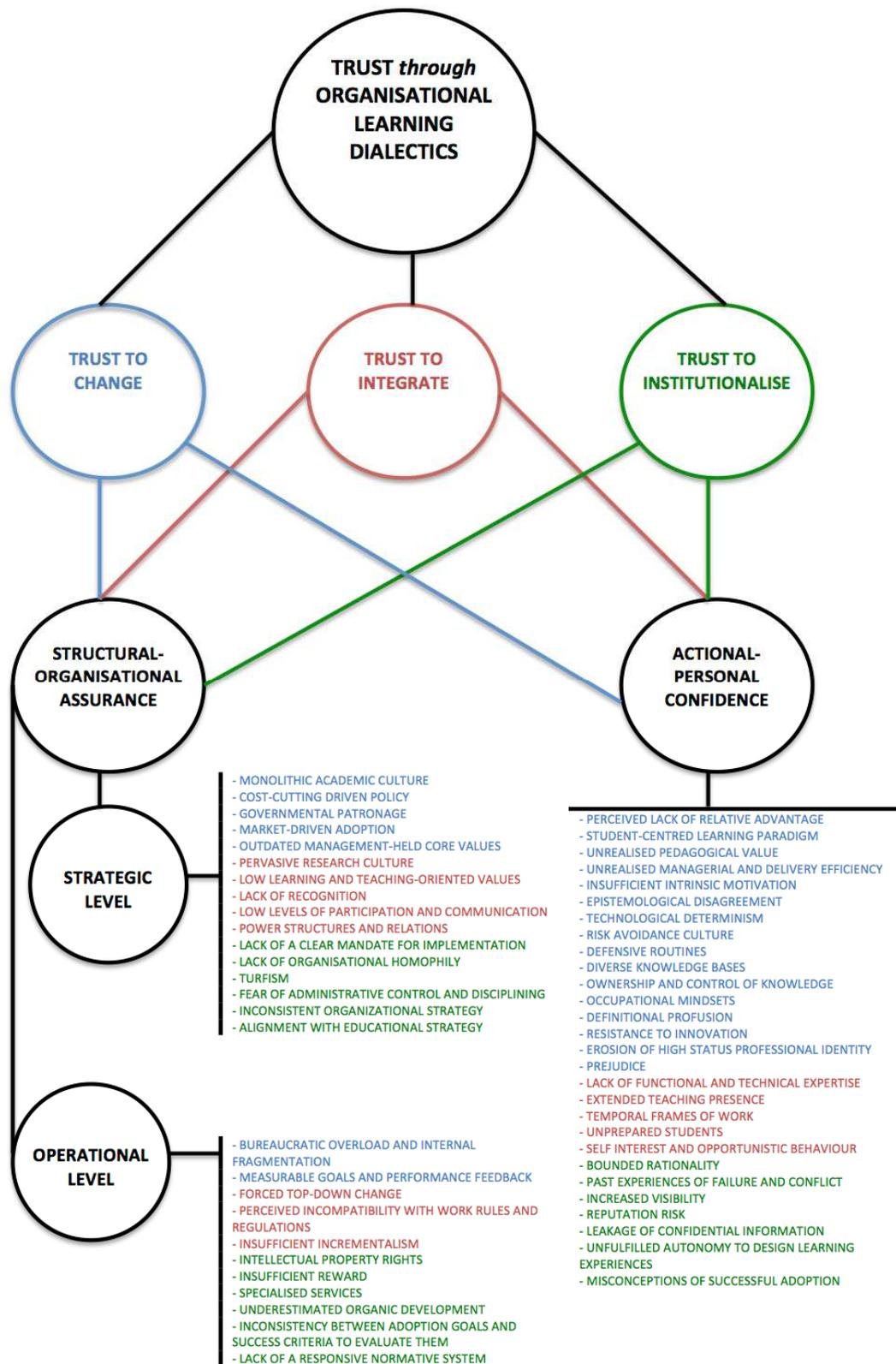


Figure 6 – The three-layered model of trust, integrating codes, categories, near core categories, and core category.

The multilevel character of the model is evidenced by bringing together individual and organisational levels of analysis – this duality was very vivid across interviews with academics - further conceptualised through coding as actional-personal or structural-organisational spheres.

This multilevel nature is particularly important to understand the tension between academics' individual experiences in a changing environment and HEIs' response, actionable in the strategies employed to transfer experiences from individual level into organisational routines, structures and processes.

The model presented here postulates three processes by which the different levels of trust in e-learning (individual and organisational) are bi-directionally connected:

- Trust to change: this is the process of developing new insights and ideas concerning e-learning based on personal experiences. It is located within individuals and it is extracted through analysing the ways in which academics explain their insights through words and actions to themselves and to others.
- Trust to integrate: this step takes place when a shared understanding among individuals is achieved, allowing for coherent and collective action across the organisation.
- Trust to institutionalise: this state refers to the consolidation and implementation of shared understandings in systems, structures, rules, procedures and strategies, which guide organisational action. To be more specific, the institutionalisation of e-learning implies embedding it in the structures, routines and strategies of the organisation.

The three processes of changing, integrating and institutionalising are used to characterise the overcoming of the specific barriers to e-learning adoption that they aggregate. They were identified during the selective coding stage (*vide* Table 4).

However, there is a deeper dualism permeating all three stages, which was identified during axial coding (*vide* Table 4). It deals with power, identity and influence, and it affects the perception of costs and benefits that academics associate with e-learning. This dualism is that of agency versus structure. On the one hand, there are barriers to trust in e-learning

that fall under an 'actional-personal' sphere (agency). These are marked by individual thinking, attitudes and behaviour, and by self-interested/ self-governed action.

On the other hand, there are barriers to trust in e-learning that fall under a 'structural-organisational' sphere (structure). These are characterised by existing routines, structures and practices and are expressed culturally in the formulation of strategic intent, in formal regulations as well as in the processes of decision-making, dominance and discipline.

Subsequently, this sphere is divided into 'strategic' and 'operational' levels. The 'strategic level' refers to how HEIs envision their leadership position and how, in response to this vision, they establish the criteria that will be used to chart progress. This requires an active management process that includes the ability to focus organisational attention on the essence of a shared vision, the ability to motivate people by communicating the value of targets, the ability to make room for individual and team's contribution in the formulation of targets, and the ability to sustain commitment by providing operational definitions and allocating resources.

Turning to operational performance, the 'operational level' refers to how organisations translate strategic direction into operational reality, creating competitive advantage in the process. It describes how initiatives that are closely associated with organisations' strategic direction are targeted to receive increased managerial attention, greater financial and technical support, and additional resources in the form of staff training and motivation, which are necessary to sustain high-priority endeavours.

Components of the external organisational environment were not ignored and were assimilated into the 'structural-organisational' sphere, as it is considered that the environment represents parts of the social and material world that the organisation perceives as relevant. The organisation filters out perceived changes and developments in the external environment (for example technological innovations, governmental policy or new ideas generated by specific groups in society) and decides whether or not to integrate them as organisational products and practices. This decision is not dissociable from culturally endorsed forms of authority, rather being its reflexion, hence the importance of analysing societal-environmental factors as components of the structural-organisational sphere.

In order to underline the process character of trust in e-learning, I structured the presentation of findings, i.e. the identification of barriers to trust in e-learning in three

stages, which correspond to the near-core categories: trust to change, trust to integrate and trust to institutionalise.

Within each of the following three sub-sections, concept maps illustrate the relationship between codes, subcategories, and near-core categories. I then proceed to explain and link trust barriers – which correspond to individual open codes extracted from interviews – with representative citations that illustrate academics' perceptions.

4.1 Trust to Change

This subsection is concerned with identifying and explaining the variety of perceived barriers to 'actional-personal confidence' and 'structural-organisational assurance', which affect academics' predisposition to understand e-learning as an element of change in academic practice.

Since the aptitude to change practices is a deeply personal process, intimately related to the ways in which individuals make sense and interact with the reality around them, there is a comparatively higher number of barriers that are associated with individuals' self-perceived capacity and willingness to adopt e-learning. Figure 7 reproduces a concept map that illustrates how barriers are distributed between agentic and institutional orientations. The strong polarity around actional-personal barriers that undermine academics' trust to change is also emphasised by the concept map.

The following subsections provide a detailed explanation of the barriers preventing 'Trust to Change'. In consonance with the objective of understanding e-learning adoption through the voice of academics, each barrier is introduced with an explanation that integrates relevant interview citations. This process of enmeshing definition, explanation and illustration with the voice of informants will be repeated in the presentation of the barriers preventing 'Trust to Integrate' (Section 4.2) and 'Trust to Institutionalise' (Section 4.3).

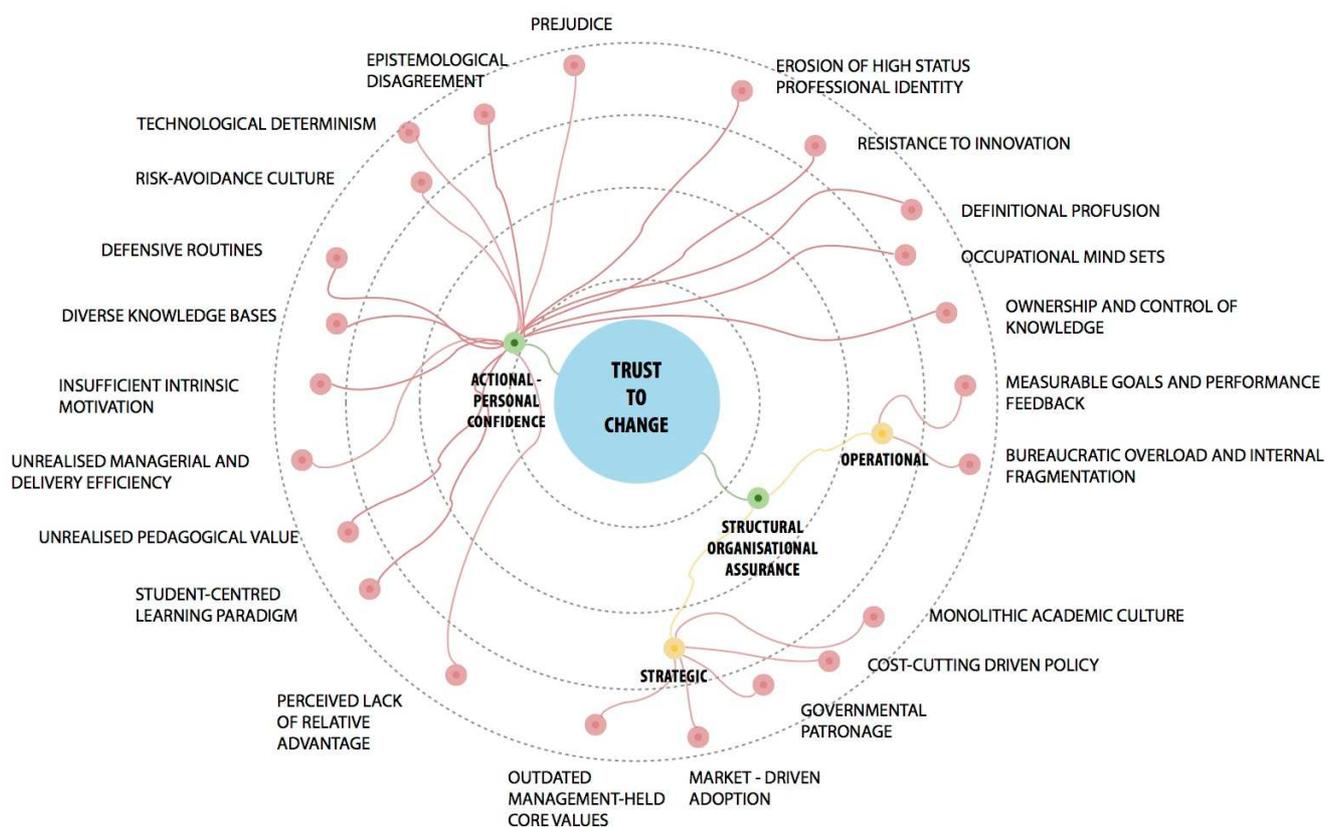


Figure 7 – Concept map depicting the trajectory from codes, through to categories ('Actional-personal confidence'; 'Structural-organisational assurance'), and finally to the near-core category 'Trust to Change'.

4.1.1 Actional-personal confidence

The interviews conducted with informants revealed that different forms of obstacles seem to play their part in preventing the emergence of novel insights concerning the meaning of e-learning in academics' workplace. Academics evaluate and reflect on work meanings in light of personal values and professional goals, yet the place of e-learning is not convergent across the several accounts encountered.

A lack of common ground or common meaning has been found, which I interpret as an inability to make meaning out of the affordances of e-learning, the result being academics feeling unable to understand what is happening around them, or unable to

conceptually align the changes in their work environment introduced by e-learning to their own personal goals and values.

If academics' work activities are to be re-functionalised with the introduction of e-learning, and this generates a clash with their personal and epistemological values, then academics will not feel empowered, in terms of increased intrinsic motivation to change. 'Trust to change' seems to be a function of meaning attributed to a new work context, serving as a mechanism through which academics feel energised and motivated about their work. In the presence of a psychological state of doubt and uncertainty about what the change introduced by e-learning means, resistance will ingrain.

Barriers preventing 'Trust to Change' are therefore antagonist to the internal process of new capability development, preventing an adequate response to change. What follows is a detailed description of such barriers.

4.1.1.1 Insufficient intrinsic motivation

Intrinsic motivation refers to academics' performance of e-learning activities for no apparent reason other than the genuine interest in or the enjoyment of the process of performing them. This definition encapsulates academics with a genuine interest in e-learning, who enjoy the process of utilising technology to make students' use of e-learning possible, and who have a strong desire to continue using e-learning in the future:

"It is absolutely fundamental to have an intrinsic, genuine belief in the potential of technology or in the ability of new technology and services to generate benefits. Regrettably, there is no way that institutional imposition is able to direct individual perceptions in such a way that academics perceive e-learning's benefits. You cannot force anyone to believe in something they don't want to believe in from the beginning. The belief needs to come from within individuals" (Q48:5:8).

Motivation refers to the reasons for carrying out e-learning activities. As a psychological state, it is best understood if one imagines a self-determination continuum stretching between a complete lack of motivation and a genuine interest and enjoyment.

“The success of e-learning in Higher Education Institutions is largely dependent on individual take-up sustained by personal motivation. The problem of e-learning adoption embodies two very distinct realities: the use of e-learning tools by several academic staff is not quite the same as the inherent internal belief that the use of e-learning tools serves a clear, purposeful pedagogical objective. I am not technologically determinist and I still believe that certain activities and even developmental stages of learning do not require the intervention of e-learning. However, I am the first person to admit that in several scenarios technology can play a key role. Nevertheless, nothing replaces individuals’ trusting belief and persuasion that there is an underlying value or benefit in e-learning” (Q48:3:8).

The a-motivation extremity constitutes a barrier to e-learning adoption, but to understand it, it is necessary to understand what shapes its opposite, i.e., the willingness to, genuine interest in and enjoyment that comes from the use e-learning technology. Firstly, academics’ perceived level of e-learning competence seems to be critical for the confirmation of expectations, for the development of usefulness beliefs and for the development of intrinsic e-learning motivation. This is so because there is the common conviction that in-depth knowledge and skills make the adequate grounding for development of realistic expectations.

“Well, I started using computer-based technology to support teaching and learning in the 90’s. At that time the Moodle platform was still not available, so I had to program and design the websites that supported teaching and learning activities. They were

customised websites to support, complement or extend classroom-based activities and to make instructional content available to my students. If I remember correctly I may have embedded a discussion forum into one of the latest websites I created” (Q49:2:3).

Some academic do come forth as techno-enthusiasts who claim to have developed their proficiency entirely on a self-taught basis:

“I should not sound arrogant if I say that I have since long time assumed that the automatisisation of informational practices was an inevitable process. When the first personal computers became available, I bought a Texas computer straight away. I was already teaching then and the potential use of that instrument in education has fascinated me ever since. I would design simple animations and equations using programming language. My entire discovery was based on what I enjoy calling my educated intuition. I immediately thought that I could explore the possibilities afforded by computational technology to improve my students’ learning and conceptual understanding, to make them better students.” (Q50:2:3).

Competence offers the basis for a more confident organisation of students’ use of e-learning, translating the feeling of being qualified and effective in the use of e-learning tools.

“My appropriation of educational technology was primarily self-directed, because my initial disciplinary field is foreign language teaching methodology. However, I soon joined the Educational informatics department and the core competences that I had developed using educational technology to teach foreign languages were soon to be capitalised for the institution and integrate our strategic vision (...). Also, I benefitted a lot from joining taskforces

whose mission was the implementation of technology in the classroom” (Q4:1:2).

However, there is the general perception that e-learning competence is a relatively scarce resource in the academic context, which may negatively impact on the development of intrinsic motivation.

“There are two or three competence thresholds that academics need to go through to make a fuller use of e-learning affordances. Regarding my own competences, I would say that I have managed to go through the initial threshold. I am able to produce my instructional resources using FrontPage. Yes, I still use FrontPage. I am also able to manage contents in the e-learning system and my contents comply with SCORM regulations. Obviously, I cannot ask my peers to have an immediate equivalent level of mastery of these technologies. They simply can’t achieve it that rapidly. I need to lower my ambition and maybe ask them to use other type of applications to produce instructional content and to interact with their students” (Q31:16:21).

Secondly, there is the issue of autonomy. Academics take pride in their relatively high general job autonomy and autonomy in connection with e-learning usage may consequently be taken for granted. When academics hold a sense of unpressured willingness to engage in e-learning, they seem more likely to experience a higher level of pleasure from e-learning usage.

“I do have the technical skills to design learning objects and instructional content online. I thought I could apply these competences to my teaching practice and benefit the students’ experience. For this reason I can say I had a strong individual motivation, together with an intention to save some time in a long term perspective. E-learning pays-off when you produce relatively

stable or foundational content, that you know reports to established immutable knowledge. For this type of relatively stable knowledge, I created some videos. This generates an impressive return on investment” (Q9:17:19).

A need for autonomy among academics that organise students’ use of e-learning reflects a desire to self-regulate their engagement in utilising e-learning tools of their own choice, and to be the decision-makers of their own usage patterns. Autonomy in choice stimulates internalisation and integration of a perceived utility value.

“I have always used technology in my teaching. To a certain extent I consider that the teacher is one form of technology. The main difference is that today most of the technology available is digital. I have never framed the integration of digital technology in my teaching practice as a burden or an excessive effort. My drive and this is also my motto, is that in order to be able to teach I first need to learn. I need to stay current and have the most up to date knowledge, because the use of technological tools requires both competence and a certain appetite for it” (Q33:2:4).

For this reason, perceived autonomy will increase both the level of perceived usefulness and the level of motivation. Self-determination understood as the enabler of autonomy is then acknowledged widely as a redeemer for internalisation – a process whereby motivation reinforces take-up and prolongs it into e-learning continuance intention.

“In 1997 I had just finished my PhD and was about to resume my teaching duties at the department. I then thought that I should at least have a basic website to support my teaching sessions. Back then, there were no e-learning platforms available, so the personal websites that I designed had to do. They contained information such as learning objectives and learning outcomes, information about sessions, instructions for tasks and activities that students had to do.

There was also a place to share students' assignments, which very often used to be secondary websites that I hosted under my domain. When the university formally adopted a platform it was one the happiest days for me! It made possible a whole new experience. I remember that when this transition took place I had my students' help to migrate content from the old websites into the platforms" (Q20:1:2).

A further factor of consolidation for intrinsic motivation seems to emerge from academics' sense of relatedness. Being connected to peers who also organise students' use of e-learning and being supported by a nurturing social context is believed to influence the level of motivation.

"So far it has been an extraordinary learning journey. It has been very rewarding personally, because it gave me the chance to contact with different realities and with new people, who also use e-learning and suggest new ideas and functionalities.(...) I feel as if e-learning allowed me to have a much more flexible relationship with my work post. I am not tied up to one physical context anymore and I operate on different layers. That is great to me!" (Q14:50:87).

However, intrinsic motivation is erodible, particularly when initial expectations - the ones related to ease of use and usefulness beliefs - are disconfirmed through actual use. In this case, trust in the affordances of e-learning can then be obliterated through modification and distortion of initial perception:

"I can identify two reasons why my experience was not successful. One of the main problems was related to the assessment of students' contribution to discussion fora. At times, you get the clear notion that students are only trying to fill in the space, their participation is not deep or reflective and it does not provide any convincing evidence of learning. They were only trying to post as

much as they could hoping that it would get them a few extra points in the final grade. That has made me withdraw the use of discussion fora” (Q10:4:2).

4.1.1.2 Definitional profusion

Definitional profusion is a barrier that describes the absence of a clear e-learning nomenclature. Across interviews with informants, the term ‘e-learning’ is commonly used, although referring to different types of instructional content and learning experiences delivered or enabled by electronic technology.

“E-learning is a very complex entity, not easily definable. It’s not possible to encapsulate all that it means in a simple sentence. I would say that there are different modalities of e-learning, different typologies. For example a blended learning approach can be understood as a complement. It can act as a direct or indirect complement, quite in the same way that it can either operate as a complement of circumstance, of place, of function. This extension of possibilities depends on how the teacher uses e-learning platforms” (Q29:2).

Conversely, different vocabularies have been formulated and employed to describe similar educational experiences, which in broad terms refer to instruction delivered via electronic media including the Internet, intranets, audio/video, interactive TV and CD-ROM.

“The academic staff is willing to accept e-learning from the moment they are able to understand it. The problem is that e-learning is a diffuse term with a polysemic nature. Two interlocutors may not even refer to the same set of phenomena or characteristics when they employ the concept of e-learning. Personally, I use Rosenberg’s

metaphor of e-learning, which lies at a crossway. E-learning can refer to a form of structured training or to the information and knowledge management of any given organisation. In a nutshell it is availability and dissemination of information using Internet protocols. However, it is the way in which contents are organised that determines the resulting type of e-learning. Also, I don't mistake e-learning by distance education. Naturally, most of today's distance education is typically associated with e-learning. I find it hard to believe that distance education using mail correspondence is a dead paradigm. So, considering the ubiquitous nature of the Internet, I believe all distance education is now web-based. However, this does not mean that e-learning is the same as distance education. E-learning can be embedded in face-to-face education and can take place under many forms inside the classroom. I am a strong defender of this idea" (Q31:20:31).

As a generic concept the term 'e-learning' seems to subsume other common concepts: technology-enhanced learning, distributed learning, online learning, computer-assisted education, blended learning, hybrid learning, web-based learning, virtual learning, networked learning or distance learning. Some informants took shield under somehow political or institutional definitions, yet recognising the existence of differing depths of usage

"Personally, I consider that there are two assertions of e-learning. One of them is very close to the political definition advanced by the European Commission, which understands e-learning as the training of citizens for the use of technology. It is quite a broad definition. The second definition is more directly relevant to education. It advocates the use of technology for educational purposes. These, I believe are the two overarching dimensions. But I think that in Portugal educators tend to employ these grand concepts acritically, simply because they are trending. The reality check tells something

completely different and when you finally get to know what those who claim to be e-learning practitioners actually do, what you actually find is the simple transposition of text-based resources into pdf format” (Q3:1:2).

It was also common to find informants who take the issue of defining e-learning as a self-developmental journey, since teaching with the help of technologies has been part of their professional trajectories:

“I may have found a definition for blended learning, because that is in fact closer to my practice. But I’ve had keen interest in educational technology since I was doing my PhD, which was about technology-enhanced learning. But that is not the milestone, I mean, that is not the point in time that I consider as my starting point with e-learning. I consider that my first contact with e-learning began when I first used distance communication tools. So if I think retrospectively about my experience with e-learning, it may have all started when I began using Yahoo’s discussion groups with my students, long before e-learning platforms such as Blackboard or WebCT were available in my department” (Q13:11).

Others consider the foundational role played by definitions, and ascribe particular meaning to the experiences of pioneering colleagues:

“I feel as if I should start our conversation with my definition of e-learning, which is very approximate to the definition employed by my university. It all stems from the pioneering work conducted by a fellow academic of this university. Here, we consider e-learning as all learning that is mediated or supported by technology, be it within a face-to-face context, at distance, or in a mixed situation. We do not endorse the concept of blended learning, as we consider it to be an integral part of e-learning. E-learning covers all teaching and learning

activities that involve the use of computers and technology. It may or it may not develop at distance. It may take place in a single physical setting connecting several participants electronically. So, inspired by this vision, my adoption of e-learning was a very natural, cumulative process, which started in the 90's" (Q14:1:2).

The abundance of cognate terms as employed by academics in the course of interviews refers, in broader terms, to learning experiences that mix the dimensions of flexible delivery and interaction tools, remote location of instructors and learners (although this aspect was contested by several participants), and synchronous or asynchronous activities. The common thread linking the wide range of e-learning opportunities experienced by academics is that they all offer the possibility of learning from information delivered to students electronically.

"In my opinion e-learning is the use of technological tools to support the learning and teaching process. I accept the fact that the definition encompasses use of technology in synchronous or asynchronous contexts, but also in face-to-face situations or entirely remote teaching situations. All of these scenarios can be classified as e-learning. To put it shortly, any learning situation that is mediated or enhanced by technology or in which technology contributes to generate interaction qualifies as e-learning" (Q24:2:3).

However, the definitional profusion becomes problematic when the interchangeability of terms makes it difficult for HEI to generate and disseminate well-informed decisions about e-learning strategies. A common framework is requested by academics, in order to move beyond functional definitions to incorporate meaningful e-learning experiences in the organisational context.

"I am not against a blended learning system in operation or even a full e-learning approach as long as the institution looks at it holistically and from a systems thinking perspective. The e-learning

system does not comprehend technology alone, it is an aggregate of people and their values” (Q21:18:19).

The absence of a clear e-learning nomenclature is a concern for many academics who sustain it is a major cause of fragmentation in this field, with academics, technicians and managers all holding and working under different assumptions and expressing themselves with different terms.

“In Higher Education Institutions that have a clearly defined teaching strategy such as the British Open University, academics know exactly what to expect and what to do to fit in. In Portugal, universities do not have a teaching strategy and they don’t even think of developing one. Personally, I think that an institution-wide teaching and learning strategy is fundamental. Here there is a draft document under discussion, but it is being pushed by initiative of a few individuals and the management is completely insensitive to it” (Q33:6:11).

The lack of uniformity in the vocabulary employed seems furthermore to be aggravated by existing philosophical divides between disciplines, giving rise to polarised gaps.

On one side there are those who hold technocratic and functionalist views of e-learning – they are mainly concerned with sorting applications based on their functions, technical requirements or the ways in which they allow users to interact.

“I am not the greatest fan of the term “e-learning”, precisely because it is not very easy for me to determine what qualifies or not as e-learning. If you ask if I use computers and the internet in my teaching, I will very confidently tell you that I do. Quite simply, I use scientific and data acquisition software, image editing software and mathematical modelling software. This is all part of my practice in a lecture theatre or in a laboratory. And then many of the learning resources I produce circulate electronically and that’s how students

access them, namely through the online platform Moodle. If the definition of e-learning is distance learning using computational networks, then that certainly is not my case. But to me, the problem with the definitional ambiguity is that terms and concepts are time-bound and conditioned historically” (Q33:1:2).

One a more humanist side there are the educators who believe e-learning creates connectivity between people and that information delivered via end-user computing generates opportunities for social learning approaches.

“My concept of educational communication is not tied up to concerns about synchronicity or distance. What I believe is that we, educators, should endeavour to develop educational communication wherever we find ourselves – and this can be along the same time line with students scattered geographically, or it can be asynchronously with students concentrated in the same location. It is possible to organise a learning activity in which students occupy specific posts without physical co-location. We can also make them converge virtually, if we invite them all to a videoconference, therefore exploiting the interactional dimension. E-learning is about maximising educational opportunities and connectivity with technological affordances. What matters is how you exploit those social learning possibilities, which are almost endless” (Q43:15:18).

But not all perceptions are so clearly positioned. Some academics worry about the plague of overgeneralisation, which leads to an understanding of e-learning as an all-encompassing panacea for the challenges of education in universities, without proper consideration of objectives, content, instructional strategies and assessment – all aspects that deserve reasonably different consideration, when compared to traditional face-to-face teaching.

“Being able to use digital information creates the ideal context for learning situations which are not necessarily teaching situations. So

this problem should be the centre of discussion. Because e-learning is generally praised without sufficient reflection about e-teaching. E-learning is not a strategy employed to dismiss teachers, quite on the contrary. If e-learning is well developed it requires even more time than face to face teaching. And it can still be a strategy to succeed where traditional teaching is ineffective” (Q16:14:51).

Academics also express their frustration at the inexistence of a shared framework to describe and clarify the types of learning experiences – collaborative learning, knowledge and information management, communities of practice - that should be envisioned when the term ‘e-learning’ is employed.

Consequently, meanings ascribed to e-learning by academics are translated into different levels or types of practice. Some of the informants clearly hold an associative view of e-learning, emphasising routines of organised activity in learning, supported by clear instructional approaches for each unit, and by highly focused sets of objectives that will ensure students accurately reproduce a certain type of knowledge or skill.

“I definitely think that e-learning can produce changes in the teaching role. Well in my personal experience it lead to significant alterations. The e-learning platform allows teachers to customise progression on course delivery. Because I use it as the resource hub for my course, I can manage and monitor everything more carefully. For example, students can find each session’s handouts lodged in the platform for future reference or previous preparation. The course programme is there too to serve as a roadmap and I also make past examinations, exercises, articles, assignments results and feedback on individual or group work available online” (Q6:1:2).

It was also possible to identify academics that held a more cognitive view of e-learning, emphasising the opportunities offered for conceptual development through reflection, student ownership of learning task, and development of model thinking skills. These

academics frame the affordances of e-learning in meta-cognitive terms, as they expect e-learning environments to encourage experimentation and student autonomy.

“I naturally understand e-learning as learning from electronic media. However, it is more than that, it is a catalyst of interaction between learners, learners and teacher, and between those two groups and the contents themselves. And the most interesting feature is that users can organise themselves in different types of networks, arranging themselves by preferences, needs or nay other criteria. E-learning achieves more than diffusion of information, it is essentially a tool to build information and a scaffold to knowledge construction processes. It is not only about technological mediation, it fosters interpersonal mediation, enhanced ways of knowledge presentation, enhanced social processes and interactions that lead to social learning situations. This last aspect is in my opinion the added value of e-learning. It becomes the enabler of social and cognitive learning because the interactional dimension afforded by electronic communication permits the collaborative generation and sharing of community-based cognitive representations. This is e-learning” (Q11:2:3).

Another prevalent understanding of e-learning encountered across interviews is mainly focused on participation in social practices of enquiry and learning. E-learning is perceived to be a supportive environment for the development of identities. Consequently, teaching is focused on creating a safe environment for participation and interaction, where students develop as confident learners.

“My definition of e-learning values the possibility granted to everyone, at any time and wherever they are based, to access high quality online contents. But my definition aspires to capture a mixed model of learning. This is so because e-learning opens up opportunities for collaboration and peer-to-peer teaching. Students

share resources, exchange ideas, discuss topics. On the other hand, they are guided in their discovery by experts who grant them access to quality digital resources” (Q42:13:32).

4.1.1.3 Perceived lack of relative advantage²

Despite being frequently acclaimed as enabling education that is more accessible (easily available to students), effective (better for their learning and skills development) and efficient (cheaper for an institution to provide and sustainable from a reutilisation perspective), the relative advantage of e-learning is not contemplated equally by academics.

Therefore, the perceived lack of relative advantage refers to the cognitive and emotional discomfort resulting from the use or growing pressure to use e-learning technologies and processes, which academics perceive as inefficient, ineffective or simply not competitive.

“It is not uncommon to find academic staff who disagrees with the usefulness of e-learning or with the value or worthiness of using e-learning platforms” (Q8:25:39).

The perceived lack of relative advantage can be either self-induced or resulting from reported failures in leadership campaigning for the need to change.

“I see no future for sporadic, non-aligned and uncoordinated experiences of e-learning adoption. All these experiences need some sort of institutional structuration” (Q37:3:3).

² The term is employed in the sense explored by Sun and Scott (2005), in an investigation of organisational imperatives that act as barriers to knowledge transfer.

Self-induced perceived lack of relative advantage is an affective state that results from academics comparing the affordances of e-learning with the replaced prevalent teaching practice (essentially the lecture, sage on stage mode of delivery) in terms of time, costs, effectiveness, convenience, quality and social prestige.

“If I am not wrong, e-learning platforms came into use around 2004. I have always thought that since I had a system that was fully operational and established there would be no need at all to do more than I was doing. I have always reckoned that the way things were being carried out was satisfactory, and this helped me decide that investing in the Moodle platform would be a waste” (Q23:5:6).

In this context, reluctance to perceive advantages in e-learning can be traced back to several reported causes. First, there seems to be a perceived loss of research time, because of the work involved in developing and teaching online contents. Even repeated delivery of the same online course requires extensive preparation time.

There is also the time and effort required to deliver a high-quality, tailored course and the perception that the effort needed to maintain quality increases proportionally to the number of online students.

“My personal experience with e-learning got off to a late start, especially if I compare it with some of my colleagues. It all started with a platform that started being used some three years ago, and it all caused a big buzz. I must say that the vast majority of my peers simply rejected it and refused using it. They were unable to perceive any usefulness in its existence and found it extremely complex and time-consuming to use” (Q21:2:2).

Secondly, many academics sense that the financial reward structure for e-learning is not commensurate with the amount of work involved. There are no financial inducements for participation in e-learning programmes and technology is growingly becoming a routine element of academic duties.

“It all depends on the angle we choose to analyse reward. From the financial point of view there is not gain whatsoever. From the career point of view there is also no guarantee of advancement. I was clearly not waiting for this kind of rewards when I embraced e-learning, because they do not exist” (Q12:11:10).

Another area of unease among academics is the quality of the courses they prepare. Preparing acceptable online materials involves far more work than reusing slides or talking in a traditionally taught course and employing the same techniques and materials for online students. Universities that offer excellent resources to help and train academics in both the human factors and the software issues associated with e-learning development are still an exception, but even their existence does not compensate the considerable extra time required, which could be used for other pursuits such as research.

“In the first place, institutions should create incentives to encourage academics in the process of transposing a course from full campus-based delivery to some form of digital presence. Incentives are fundamental to get academics working on the production of technology enhanced instructional contents. The mediation, application and use of those contents in intelligent learning contexts require time. Teachers need time to prepare contents and to manage students’ interaction through moderation, which requires time. Incentives to e-learning adoption clearly need to address this time issue. Otherwise the career advancement prospects will keep on enticing academics to act more as researchers and less as teachers” (Q36:18:36).

Finally, there is the perceived lack of relative advantage as a result of poor organisational awareness, insufficient leadership and absence of evidence-based advocacy for the need to change. An established sense of urgency in adoption e-learning is not followed by widespread availability of compelling evidence of benefits or even benchmarking with

successful models. The result is incongruent innovation values fit and poor organisational attempts to match e-learning as a product to academics' needs and values.

“It is not easy give advice on how to best appropriate e-learning. The first thing I tell the people with whom I work for many years and who are still recalcitrant or legging behind in their adoption of educational technology is the following: people can only migrate to the realm of technology when they are completely persuaded that the work methodologies are favourable and somehow beneficial. If they endure on thinking that e-learning methodologies will complicate their lives, then it is definitely better to keep at distance. Otherwise, these people will be so rapidly frustrated that getting them back onboard will be twice as hard” (Q14:53:90).

4.1.1.4 Unrealised managerial and delivery efficiency

This barrier refers to academics' failure to recognise the ability of e-learning platforms to manage learning content in various formats, to reuse learning modules and to support knowledge management processes (knowledge creation, knowledge codification, knowledge transformation and knowledge diffusion) for educational purposes.

“The academic staff do not even imagine the array of available tools that makes their lives easier and that it is all in reality very simple and easy to use. It's all simplified, paperless and troubleless too. I would say the problem lies with a perception of value, it takes personal conviction that e-learning brings about more gain than pain, and that it will not involve spending too much time” (Q30:29:56).

On the one hand, evidence collected in interviews suggests that a possible source of resistance to e-learning adoption can be found in some academics' ignorance about the

managerial and administrative affordances of e-learning systems that others readily describe.

“E-learning brings me great satisfaction. I cannot simply conceive a course or module without an online digital component. And I also think that those who try it and engage deeply with e-learning tools will experience this same feeling of being unable to imagine teaching without it. Although I admit it is more time-consuming and more demanding. However, there is another side to it, because everything becomes a lot more dynamic and I do not lose sight of any information. E-learning platforms operate as repositories and I like the fact that I can change features and add contents at any time. I feel as if I would not be able to teach a course if I had to rely on traditional delivery only” (Q30:40:82).

The advantages described range from solutions associated with administering classroom training (self-registration, centralised and automated distribution of modules, assembly and delivery of learning content in scalable web-based platforms) to content/ curriculum management systems that fulfil the needs of personalised and adaptive e-learning (tracking and reporting of learning activities to support curriculum governance, training workflow and supervisory tasks, student notification, timely delivery of learning resources, online assessment and collaborative learning through application sharing and discussion threads):

“I get a tremendous peace of mind from knowing my students are always able to access the course materials or to be apprised of any daily notifications, if so they wish. Also, I created summaries and descriptors that accompany the upload of each session’s files. Occasionally, I complement this with the use of social web applications. With this set of tools students are always aware of what is happening in face-to-face sessions and can closely follow the

delivery of contents. There is no excuse now because it is always possible to be up to date and to be on top of everything "(Q6:5:7).

On the other hand, and according to a considerable number of informants, the delivery efficiencies of e-learning systems remain largely unacknowledged, perhaps due to the limited availability of information about their performance. They are multi-user environments where developers may publish, store, reuse, manage and deliver digital learning content (text, graphics, simulations, assessment items and other learning objects that make the course content) from a central object repository, for either synchronous or asynchronous online training.

"I believe that when the academic staff realise all the benefits they can attain by adopting e-learning, they will more easily convert. There are several advantages, the most immediate being having a neat, well arranged module with organised blocks of contents. Moreover these are very to replace and update. Some academics will consider it a worthwhile investment, yet I am not so certain that they will use the affordances of e-learning systems in all their extent and capacity. And I say this simply considering the bureaucratic and administrative functionalities alone" (Q19:13:21).

Additionally, more sophisticated systems incorporate the functionalities of version control, multiple authors, and project management. They provide tools for authoring, reusing and even repurposing content, as well as online spaces for student interaction, such as discussion fora, live chat rooms and live web conferences.

"The greatest advantage introduced by e-learning is the possibility to count on a multitude of tools that was simply unconceivable some years ago. I can tell you that now my module is entirely centralised online. The e-learning platforms does not function as an appendix, as a replacement for the students who were absent from the majority

of face-to-face sessions, as a mere record of activities or as the last resort for unprepared students who cram knowledge the night before exams. The e-learning platform has become the core of learning and teaching because everything revolves around it. It aggregates syllabi, contents, summaries, slides, articles, notices, etc. (...)I even manage appointments or registrations electronically, for example when students need to discuss exams' marks with me. Also, I make a solved copy of the exam available online for them to facilitate self-learning and self-correction" (Q12:5).

The benefits, acknowledged by enthusiast users, are manifold. They include the centralised management of a module's learning content for efficient searching and retrieval.

"If I anticipate that a specific course will develop 80% or 90% of its duration online, I know that a higher degree of consciousness applies: online modules need to match tasks, bibliographic resources and very clear instructions about what will happen and when. I acknowledge that the affordances of e-learning act as my de facto diary or planner, because there is an organised record of everything I do. When I relied exclusively on personal notes and portfolios, my primary concern would be organising knowledge in such a way that would make sense to me. I was not worrying with making things discernible to others. Now that I use the platform extensively with my students, I need to be a lot more structured and organised and this obviously impacts my work routine" (Q36:73).

Furthermore, a much celebrated advantage among users is the productivity gain around the assembly, publishing and delivery of learning content that can be more easily reused with following cohorts of students or repurposed for different audiences, therefore reducing duplicate development efforts.

“There are certainly aspects of my professional practice that are enhanced and facilitated. For instance, I can easily update or customise contents without having to fully re-tailor or redesign them. I can easily arrange the contents I delivered on a specific year to a particular cohort of students. Because I can also track them and search them easily, any necessary alteration is made easier. It is not comparable to having to create contents from scratch, which is very complex. Digital content management allows an easy upgrade. Even the design and management of learning activities for students is enhanced, although I regularly need to change the assignments’ briefs.” (Q31:19:28).

Students’ assessment is another area that reportedly benefits from e-learning systems, for they allow a more efficient management, the recycling of contents, and a specific economy of means:

“But I solved the problem in formative assessment exercises. Every year I create a battery of 80 questions, which feeds into a wider assessment data base, organised by categories. At any given point in the course I can choose to create a multiple choice test with random questions – usually 20 – that I publish online. Students answer the questions and get the answer too, accompanied by a detailed explanation that I have also created” (Q31:24:42).

4.1.1.5 Unrealised pedagogical value

This barrier is essentially related to academics’ perception that underpinning any approach to the design and delivery of online learning resources there should be a sound and clear pedagogical rationale, and a clear understanding of the student body and learning needs. Failure to understand that the use of e-learning should be driven by pedagogical needs and goals can result in disappointing experiences and ultimately in a rejection of technology,

because it is not clear for many academics how can e-learning improve the learning outcomes of their students.

“Technology in itself cannot force anyone to do anything. However, it can be a fundamental tool to perform our work differently. For those who are still doubtful and questioning the usefulness of it, it is necessary to show the way and introduce the advantages. For example discussing an article with a large group of students in a lecture theatre can be really boring. But if the lecturer uses a forum, a chat, a social web application or any type of software that allows students to operate in a language that is more familiar to them – enjoyable and friendly – then I am able to transform a traditionally uninviting task into a motivating, mobilising activity. I can engage students in a deep way, something I would not achieve in a face to face situation” (Q22:14:21).

Not understanding the pedagogical benefits of e-learning is attributed by informants to a paradigmatic shift that many academics have not embraced yet. This shift in paradigms is the result of moving technology to the centre of educational transaction, which raises the visibility of a set of issues that have were not previously emphasised with the predominance of teacher-centred education.

“With e-learning I can design simulation models and dynamic exercises. There is a variety of functionalities that allow personalisation and customisation – two key words that are absent from traditional face to face teaching. And when I say that contents are personalised, I mean that with e-learning I can more easily adjust and fine-tune exercises to my group of students’ behaviour. Comparatively, in a classroom situation, it is very difficult to adjust an exercise to every single individual attending. With e-learning, I can design functionalities in such a way that the exercise a particular student needs to solve is dependent on previous performance. This

possibility is a major enhancement to the teaching capacity”
(Q27:7:17).

However, this does not mean that technology becomes more important than the teacher, the learner or the learning process, rather that the technological affordances shape interaction among learners, teachers and content, influencing the key aspects of social presence, structure, learner control, and feedback. It is indeed the synergy of technology, instructional methods, subject matter and other contextual factors that provides the necessary conditions to support knowledge construction and learning when teachers and learners are not in a face-to-face situation.

“E-learning introduces a very important benefit, which is making people a lot more aware and concerned about what they do or say online because they leave long life footprints that may be seen by others, reviewed or contested by peers. This is a contribution to enhanced quality, which I believe still remains underutilised. In my point of view, e-learning forces teachers to exert additional care in preparing everything and this prompts better quality in education. It also contributes to greater accountability in the sense that I can be easily observed by my peers. They can check my performance and verify if the learning outcomes established for my module have been achieved. Otherwise this is not viable, and it is all very nebulous and light to my taste” (Q17:19:77).

The practitioners of e-learning defend that the focus should remain on the basic mechanisms and processes of learning. E-learning environments should be perceived as supporters of cognitive, social, motivational and affective processes of learning, through supporting both individual reflection and epistemic social practices.

“Teaching with e-learning is a lot tougher than using traditional delivery methods. But I think students learn a lot more, which is not necessarily an outcome of my direct instruction, rather of their own

learning. Of course my role was to alert, guide and direct them to areas of interest and to the most important topics in a discussion. That was truly what I have done. I was a bridge in their relation to peers and other sources. Even when they were chatting with me through the platform, many students would use other application to simultaneously chat with fellow students. So they have plenty of tools at hand and they integrated them in their knowledge-building process, even if for most of them this had been their first e-learning experience. (...)After one semester carrying out this type of practice, students were working more autonomously and producing impressive reflective accounts. They were using Google chat to discuss and Google applications to edit collaboratively. They were enriching their assignments with unexpected artifacts” (Q11:31:47).

The creation of learning environments centred on dialogue, interaction, and exchanges of knowledge among students and instructors is another pedagogical enhancement that e-learning systems can sustain:

“Students value and praise the availability of an online tool that makes their doubts clear and sometimes their questions are very basic, yet they prevent them from understanding concepts more widely. The availability of the website we created allowed them to answer these questions at any time. Moreover, the system displayed visualisations of experimentations and gave access to simulation features, which are difficult to make happen in a lecture theatre. (...)The accessibility and use of web-based graphic methods is an important aid to visualise phenomena which are invisible to the naked eye, such as a magnetic field. You cannot see magnetic fields, yet they exist and animations render them understandable” (Q41:3:8).

Some informants claim to use e-learning to achieve more student-centred active learning, improve student inquiry and encourage higher-order thinking. E-learning is referred to as an environment that provides tools for learners to organise information, contribute content and engage in learning activities.

“ (...) E-learning changes the pattern of students’ participation. Whereas in lectures some students go completely unnoticed, in an online forum they’ll excel and contribute with high standard postings. They are a lot better at distance, perhaps because some of them are too shy in a face to face environment or simply because they do not talk” (Q19:30:50).

These learning activities ideally integrate different forms of representation (audio, visual), use different forms of learning activities (reading, writing, discussing, producing a new content), and possess a problem-solving orientation, leading to the integration of theoretical knowledge with students’ practical experience.

“This is what I usually ask of my students: you now have a month to complete this task and you use your time and my time the best way you can. And this strategy applies to many learning designs. It can be a discussion forum; it can be students proposing exam questions that I answer interactively following a formative assessment strategy. Also, the submission of experiment reports throughout the semester is conducted online and I mark them online, which obviously allows me to enrich the feedback I give high quality graphic material. And students can attach such materials to those submissions as well. They growingly attach videos and lab protocols. And it is becoming very frequent that they use smart phones to record laboratorial performances. This means that a vast amount of multimedia content is now integrated in teaching and learning – even in lecture rooms and labs – because of the availability of e-learning platforms” (Q12:4).

Other informants praise the collaborative functionalities of e-learning, which include the provision of spaces for discussion and negotiation, real group tasks, symmetry in knowledge and status, group commitment and motivation, and interaction with peers and teacher, who offer structured support and guidance for learning in all phases of the learning process.

“If you’re a student coming into my session and if you’re bringing a laptop or a tablet pc with wireless access, I immediately connect you to software that synchronises what I am presenting with your computer screen. I write directly on screen and each student sees it on their terminal. If any student has a question, they can send it directly to me. I answer it immediately and on many occasions I ask if I can share that particular doubt with the rest of the classroom. The learning process is very much improved and the whole dynamics is enhanced. Sometimes answering a single question makes the understanding of a specific problem accessible to everyone.”
(Q37:33:150).

The enhancement of cognitive and social outcomes was also mentioned as a benefit of e-learning environments, particularly the appreciation of shared workspaces and communication tools that provide a natural setting for explanation, knowledge articulation, argumentation and communication.

“I guess that at present time everyone understands the importance of electronic communication. There are even studies about the impact of social networks and some scholars claim that the quality of the learning experience mediated by e-learning is as good as face-to-face delivery. There are even daring researchers – and I would add that they are in fact quite rigorous – who claim that in many contexts e-learning can generate added value to the teaching and learning process. (...) Today, we can communicate, teach, learn, share and go deep in the exploration of any subject online. We can even conduct

remotely controlled experiments collaboratively and then reflect on the processes. We can create extremely rich online learning experiences, irrespective of time and distance constraints. This possibility holds tremendous potential. Yet it remains largely underexamined and underappreciated by academics” (Q43:2:4).

The establishment of rapport and affinity with learners is also part of the range of advantages many academics are not aware of.

“(…) From the moment students realise that their teacher is not such a dinosaur – they actually find their way around quite well with technology – it is possible to establish a very harmonious pedagogical rapport. And this is extremely important because to our students the use of information and communication technology is as natural as breathing. Many of my colleagues are actually jealous of what I achieve in terms of interpersonal relations with my students. They ask me how I managed to achieve such good results. I tell them it is one of the advantages of e-learning” (Q22:27:41).

An increased reflective dimension of learning is another pedagogical benefit attributed to e-learning, with practitioners arguing that e-learning systems provide tools that not only lead learners to examine their work in the light of the conceptual tools provided, but also push engage them in reflective thinking about their actions, skills, competencies and meta-learning skills.

“In all reality the greatest advantage of educational technology is associated with the learning processes it triggers, with the meta-cognitive processes that are elicited when we share and co-construct knowledge” (Q48:16:29).

Finally, e-learning practitioners pinpoint unrealised advantages at the level of educational contents’ organisation, since they perceive e-learning systems as catalysts of collective

memory for a learning specific community, helping learners and teachers to store the history of their knowledge construction process for the purposes of revision and future use.

“There are very interesting virtuosities of e-learning such as the possibility to register and record instructional activity. The pedagogical relation becomes a conversation, a dual relationship that leaves a searchable and retrievable trace. At any given point or any given need I can scan and run a quest in that dynamic repository to retrieve useful content. All that living memory, which is brought to actuality when necessary, is also part of e-learning. This is actually what I mean when I speak of e-learning. The “e” of e-learning will mean less and less because all learning will occur within this framework” (Q46:20:33).

4.1.1.6 Epistemological disagreement

Academics’ epistemological beliefs are defined as the philosophical basis for teaching and learning and as a system of beliefs related to the nature of knowledge and knowing. This means that academics that hold a particular conception of teaching tend to adopt a commensurate approach to teaching and ascribe an analogous conception of learning to their own students.

Epistemological beliefs are then related to various conceptions of teaching and learning. These include preferred ways of teaching and learning but also academics’ idea about the role of teachers and learners in the knowledge developmental process. If academics’ epistemological standing do not match the goals and assumptions of e-learning as an educational innovation, resistance is very likely to occur.

“I would say that for the majority of people the resistance to e-learning is to a great extent attitudinal. It is not so much a technological resistance per se. It is a matter of perception, of vision, it is almost an epistemological standing concerning the value of

knowledge, its different modalities and the ways it can be channelled and constructed. Some academics value open and distributed approaches, in which sharing is praised. But the opposite perspective is prevalent. Countering this standing is difficult at institutional level, because the academic staff is imbued in autonomy thoughts. It is difficult to combat the strength of longstanding attitudes and pre-conceptions that many academics hold about change and technology adoption” (Q48:17:29).

First there is the conservative stance in which technology is not considered an integral part of providing a high-quality education. Several academics criticise the stance of students as passive consumers of knowledge.

“I would say that the problem is that students and the whole society in general are geared towards instant consumption. Nothing is deep or based on reflection. And any task that requires concentration and effort is considered to be extenuating. It is rare to find someone who reads a book from cover to cover. The common expectation is that everything unfolds as in an American sitcom: the narrative plot is simple and condensed to generate instant laughter. I regrettably find a parallel in current teaching and learning processes. We are shaping a generation that expects a fast narrative process. This image is also well illustrated by the PowerPoint metaphor, whereas in the past the textbook for every course was king” (Q33:12:14).

Another branch of critique targets the overemphasis on technological mediation and rejects using technology enhanced learning as a single mode of instruction:

“E-learning is not enough in itself. It does not suffice as a standalone resource. This is my belief because I am sceptical about single-sided solutions. Students’ learning cannot be confined or restricted to a single source, be it one teacher, one book or one method. It is a

compound of various experiences. A student needs several sources of inputs to learn effectively. E-learning is just one of such inputs, not the only one or the best one. It is just one more tool available to diversify the way I choose to direct knowledge into students” (Q41:11:35).

Many of the interviewees claim that instructional innovations online still face the challenge of demonstrating they do not negatively impact the quality of instruction. Furthermore, they should provide evidence that quality is indeed enhanced or at minimum, that the experience of an online student should be as rich, both intellectually and affectively, as the experience of a student on campus in the traditional lecture room.

“I can say that I have a very philosophical argument to keep a critical distance towards e-learning. I think e-learning is misleading and utopian in a certain way. I actually think that uploading contents into an online platform – my colleagues upload mostly handouts from lectures - will result in students paying less attention in class and taking poor quality notes or no notes at all. E-learning obliterates a fundamental dimension, which is to follow a class. Being in a lecture theatre does not equal to passively attend a show that could easily be replaced by a TV screening. At least in the hardcore sciences I think it is extremely important to demonstrate how things are done in loco and to show all the stages involved in solving a particular problem. There is no learning at all when problems appear solved or when everything is digested and presented in a ready to use fashion. I am actually convinced that the effort of copying a formula from the blackboard into the notebook is a form of learning. It helps with mechanical memory. It is not a random fact of life that babies are taught controlled gestures. It is part of activating certain areas of the brain to facilitate learning” (Q26:6:14).

Additionally, given the costly resources needed to develop e-learning contents and materials, the expectation should be that of an enhanced teaching and learning experience, and not of a weakened substitute for the traditional face to face model of education.

“ (...) Face-to-face teaching holds irreplaceable advantages when compared with e-learning. I refer in particular to the university as a physical space, as a learning environment. From the sociological point of view, the on-campus student experience is a source of skills for life. It is not only a place of study, it is a place of acculturation and socialisation. Web-based socialisation is possible if participants engage in discussion for a, but nothing replaces the proximity and dynamism imprinted by non-technically mediated relations that occur at school, understood as the place designed for learning” (Q27:9:19).

Alongside with the aforementioned concerns, two major conceptions of teaching and learning have emerged in the course of interviews.

One of them is traditionally teacher-centred, with academics believing that the best learning process and outcomes would be associated to direct instruction on the contents to be learned. This understanding is teacher-centred because learning is understood as acquisition and as a unidirectional transmission process, where the opportunities for student-initiated learning activities are minimal. These are the teachers who believe they know better, that knowledge is immutable and that good teaching consists in imparting information and in instructing structured, factual knowledge. In this view, knowledge is acquired by communication from the teacher to the learner, through processes that include learning by being told, coached, tutored, or learning by observation.

“The major problem I detect with remote teaching is the intrinsic difficulty that lies in communicating personal wisdom. It is extremely difficult to formalise experience and ready-package it. It forces academics to an enormous editing effort. Very frequently the

product of that effort is a complex deliverable that fails to capture true meanings. On top of this problem, there is the absence of human relations because our first instinct leads us to untrusting behaviours. In e-learning human trust is never fully established, the human bond is missing” (Q2:4:4).

The other conception professes allegiance to an epistemology that is simultaneously more constructivist and more interactional. A constructivist epistemology emphasizes the agency of the learner in replacement for that of the teacher, which is a considerable source of cognitive dissonance.

“I consider that students are increasingly resistant and increasingly disconnected from being passive recipients. I can tell it from their posture and the way they approach lectures. E-learning platforms can perhaps play a role in re-establishing success in our endeavour to communicate with students and to make specialist knowledge come across. (...) The contents are not always easy to assimilate and I am sure they will never be enjoyable to everyone. But who said that learning would always be a pleasing process? Nevertheless, I obviously try to reach out for ways to capture their attention, whether inside or outside the lecture theatre. I also try to check their understanding of the course throughout the semester and I do believe e-learning serves this purpose extremely well because of its focus on social negotiation of meaning” (Q6:8:12).

Many academics are sceptical about what kind of learning happens when the learning process is contingent on learners' efforts to make sense of the world and on the establishment of knowledge through joint construction of interpretations.

“If I consider that instruction should equip students with a diverse range of skills – the ability to perform and execute, the ability to think on their feet and to develop a personality – then my opinion is

that e-learning essentially prepares students to perform and execute a certain range of tasks. It may contribute as well to develop higher order thinking but less to the social skills dimensions. Online communication is more suitable to convey technical knowledge, and to develop structured reasoning, I suppose. Behavioural aspects remain more difficult to convey through online education” (Q27:26:70).

In particular, the role of the teacher is questioned when intersubjective learning epistemologies claim that not only is learning accomplished through the interactions of the learners, but also consists of those interactions.

“From my viewpoint, the most important aspect of teaching and learning is not discussing lectures or modules. It is all about one-on-one human contact. If I am allowed to recall my own experience as a student, I can say that the greatest qualitative leaps forward in terms of learning took place when I could spend half an hour talking to a teacher. Being able to talk with a teacher for a good half an hour is beyond comparison more thought-provoking, stimulating and purposeful than 20 hours of content regurgitation in lecture theatres” (Q2:9:8).

When it is suggested that the effective utilisation of e-learning requires a considerable shift both in skills and conceptions of learning and teaching, this generates strong epistemological tensions in academics.

“I am averse to extremes, to the complete self-regulation and nonexistence of physical interaction with peers and teachers. Distance learning implies several losses, including the oral dimension – which can be replaced by webcams and videoconferencing – and more importantly the dimension of socialising. However, technology presents us with ever more sophisticated replacements and now the

university is already equipped with life size videoconferencing systems, which replicate the discussion that normally occurs across a table with participants seating around” (Q39:15:46).

In addition to becoming skilled in the use of technologies, e-learning seems to require a displacement from a teaching-centred paradigm that places emphasis on the transmission of expert knowledge by an expert academic to a learning-centred paradigm, in which learners are empowered to become constructors of knowledge. Academics are not comfortable with this change.

“E-learning implies introducing technology in the didactics and pedagogy of teaching and learning. Teachers need to reconsider all their frameworks of work and their operational routines because e-learning introduces the virtual dimension as a key variable. E-learning changes the pedagogical paradigm by affecting the otherwise rigidity of time and space. Furthermore, e-learning introduces interaction as educational mediation, yet it devolves increased responsibility to individual learners. The teaching dynamics is profoundly altered” (Q18:3:6).

Evidence collected in interviews suggests that these features associated with e-learning could fundamentally change the role of the academic, readjusting it to the functions of guidance, recognition, assessment, accreditation and validation, whereas teacher-centred paradigms reified academics’ disciplinary authority.

“E-learning has radically transformed the teaching practices of academics. The first transformation conceals a dangerous illusion which many teachers’ expectation that it will suffice to migrate existent instructional materials into online environments. This is a fallacy because the whole teaching strategy needs to be reviewed. Everything step of the instructional endeavour needs to be addressed differently. And there is also the visual enhancement of

contents, which requires a special organisation. The era of photocopied handouts has passed. Instructional contents need to be carefully created and carefully selected” (Q19:4:8).

The more conservative teaching staff condemns the overhyped pedagogy of networked learning, for fearing that the drive towards facilitation and the adoption of a more equalised role for the teacher in higher education will diminish the core activity of HEI and transform them in credentialing agencies or degree granting bodies. These academics emphasise the role of face-to-face contact and the universities as ideal environments for socialisation:

“From my point of view, the humanist dimension of education and its contribution to personal development can never be abandoned and replaced by technology. We learn from a lot more than lecture sessions, books and online contents. We learn from contacting teachers who have specific personalities, we learn from the museums we visit, the movies we watch and the theatre plays we see. When we leave university we are ready to be a lot more than we will ever be for the rest of our lives” (26:28:52).

At another level, academics who welcome their peers’ recommendation of understanding online learning environments as an opportunity for students to learn to select, combine and coordinate their cognitive strategies in connection to new knowledge, denounce the prevalent use of e-learning as one size fits all service to learners, irrespective of their knowledge level, goals, and interests. They call for the integration of pedagogy and media literacy:

“E-learning requires from academics the development of comprehensive media literacy. It is unconceivable that an academic from any discipline is destitute of the capacity to understand their subject in a global context. If we persist on engaging in new teaching and learning processes without being fully cognisant of the

epistemological and pedagogical implications, perhaps we are preventing effective educational change” (Q16:6:19).

These academics criticise the absence of personalised support when students have access to the same instructional material and the same web-based tools, and receive the same exercises irrespective of their pre-existing knowledge and experience.

“Concerning e-learning systems, I can tell you that the university has endorsed the use of Blackboard. But the academic staff does not like it and the take up is poor. The platform operates merely as a content repository and it does not support any intelligible teaching and learning strategy. It functions only as a virtual space allocated to each teacher and it is automatically created for every module. Most of the time its usage is limited to the very basic level: teachers upload contents and students access it to download them” (Q47:2:3).

This realisation seems to contradict the expectation that e-learning would attend specifically to the needs and expectations of learners, who co-construct knowledge and meaning as they interact with peers, tools and content. Instead, issues of personalisation and even students’ pre-existing knowledge and experience seem to be neglected by standardised educational materials, which are presented to a large number of learners who hold different knowledge levels, skills and learning strategies.

“One of my concerns is that e-learning platforms typify and reproduce traditional delivery models that resemble programmed instruction, which I have always avoided in my practice as a teacher” (Q1:15:19).

4.1.1.7 Technological determinism

E-learning is portrayed as one aspect of an emergent networked society, being usually framed as a technical issue and as an agent of efficiency with unambiguous educational outcomes: new organisational and management structures for the provision and delivery of teaching and a new form of pedagogy that changes the relationship between academics and students. This perception reflects what academics refer to as a technological determinist view, which considers that social change is a direct consequence of the application of technology.

“I am actually extremely confused and I dislike that e-learning platforms contrive creativity because all actions and processes are extremely controlled and restricted. It is a fallacy to advocate this kind of technology allows students to autonomously govern their own learning. This idea stems from a scripted ideological narrative. It’s political rhetoric to praise technology. The message that comes across is that with e-learning all of us – students and teachers – will be better off; we will all become independent and autonomous, everybody will be able to study anytime and anywhere” (Q1:17:21).

Academics criticise a latent politics of consensual change surrounding the diffusion of technology and its application to education. They perceive the multiplication of rhetoric calls for e-learning adoption as some sort of uncritical reproduction of a techno-enthusiastic dominant ideology.

“My fundamental issue with e-learning is the systematic fascination and the irrational allure that new technology exerts over people. People think that new technology will miraculously solve their problems. Well, my experience tells otherwise. In fact, that is when all problems begin. And this is particularly applicable to Higher Education Institutions” (Q9:7:8).

Technological determinism thus refers to the generalised assumption that change and improvement in technological apparatus have commensurate effects in society. In the particular field of education, technology is often couched in terms of its potential and transformative agenda, ability to motivate, empower and enhance scholarship and investigation. E-learning is usually credited for its power to improve the quality and standards of students' learning whilst simultaneously reducing the time teachers spend on administration. The later assertion, in particular, is heavily contested by informants.

“The greatest cost associated with the adoption of educational technologies is definitely the loss of time. Time is sacrificed because there is a pressuring demand to be permanently online. It becomes chaotic if the academic needs to teach and manage several courses simultaneously. It is the end of personal free time. There will always be a student asking for something. It is the end of silence, because the possibility of a time and space of quietness and tranquillity is lost, substituted by the expectation of permanent availability” (Q22:17:26).

But the main concern of academics is that technological determinism in education locates causation in technology, neglecting the intellectual work performed by teachers who use technology in ways that realise potential improvements and transformations.

“My personal history of e-learning adoption has been marked by significant internal debates related mainly to learning processes. The questions revolving in my mind were of cognitive nature and reflected this doubt about how people best learn. I was biased against the standpoint of the techno-enthusiasts who favoured a fast-track policy of technological infusion into classrooms. I was never really comfortable with this perspective and I thought that any project that really aimed at introducing technology in education had to be essentially pedagogical at its core” (Q46:2:3).

There are also informants who recall their experience as students to give examples of excellent teaching that developed without technology enhancement:

“As a student, I never had any teacher who used technology, but I do recall attending extraordinary sessions, extremely rich and very substantive. There was substance not only in terms of content but also the communication process and the interaction were fluid. Those were the days in which my teachers were actually performing a role that today most people attribute only to technologically-enhanced processes” (Q48:25:43).

Another recurrent theme is that of technological determinist views’ insensitivity to context, particularly when there is the expectation that the adoption of e-learning would yield uniform results across the board, irrespective of the complexity of individual settings or even the contingent nature of the teaching process.

“The reality now across schools and Higher Education Institutions is that a lot of technology has been massively deployed without an actionable plan or strategy. The perception I have is that there has been a massive investment in technology, yet teachers do not know what to do with it. They are unable to make the pedagogical integration of technology in their teaching. However, the use of technology per se and as an end in itself is counterproductive and generates no added-value” (Q48:23:41).

E-learning in itself is only a tangible resource with a definite range of capacities. What is made of it depends on the critical edge of academics, and on the decisions and practices of those who develop and apply them in response to the needs of education and training.

“I always warn against techno lust and against educators’ fascination about the affordances of technology. Technology-enhanced learning is not folklore; it is very distinct to those hideous PowerPoint

presentations heavily loaded with animations, in which the audience is hypnotised with a parade of arrows and gliding text boxes. In my opinion content comes first and it is there to serve a function, to maximise the extraction of meaning from content, not to minimise or obliterate content. Technology exists to serve educational purposes and as a teacher I am free to choose the best way to achieve them. I refuse to employ technology in my teaching if the only rational is embellishment or if I predict students will have more fun or perceive me to be a cool teacher” (Q32:60:95).

4.1.1.8 Occupational Mindsets

Occupational mindsets refers to the constituent aspects of academic identity as self-perceived, namely the ways in which academics understand and conceptualise their role in universities, as well as their understanding of their relationships to their institutions. Changing patterns of practice were recurrently mentioned by informants:

“I think that most academics still haven’t realised that the functional attributes of their jobs have changed a lot. They still do not enact what is now circulating theoretically as the new pedagogical stance – that of the teacher as a facilitator. But in practice that is what students really need from their teacher: a guide on the side more than a sage on stage, to help them select and transform information into applicable knowledge. Furthermore, an extension of the teaching presence as a direct consequence of e-learning is inevitable. How can I explain this without sounding excessively romantic? A true teacher does not cease to be a teacher when the lecture is over and when the door is shut. It is not like a light switch that powers your ability to be a teacher or stop being a teacher. It is a state of mind, a sense of duty and service, a willingness to be available. Educational

technologies have made this process more transparent and now it is an irreversible process” (Q48:29:49).

In general terms, the norms of the academic profession and the institutional politics and practice seem to shape academics’ individual and collective identity. However, several incongruities in professional experience reported across interviews with informants denote a latent conflict between the long-standing principles that more senior academics adhere to, and a self-questioning attitude that predominantly permeates junior academics.

“There are clearly two angles from which to appreciate the impact of e-learning in academics’ professional practice. One of them is the core technological element and the other one is the application of that technology. The latter implies that the teacher is capacitated to understand how to maximise the affordances of technology to obtain benefits and to enrich the teaching and learning experience. It also means that the teacher needs to engage in the production of digital instructional content, tasks and activities online that develop at a much higher speed than the traditional processing and consumption of printed resources” (Q14:7:8).

Nevertheless, a shared perception is that universities operate as powerful instruments for the institutionalisation of professionalism in their dual nature of both professional development providers and as the environment that establishes the academic profession. This environment is characterised by a stratified nature - corresponding to a very hierarchical system of expertise and employment category (assistant, associate and full professor; tenured or untenured professor) – and by insufficient levels of renewal:

“There is also a generation gap issue that must not be forgotten. It’s a complicated age to face big changes for most of Portuguese academics. There is hardly new academic staff being hired. There is no generation renewal. Most academics are aged 40 or 50, and this is when change in teaching practice is critical, particularly because of

their status, rank and seniority. Additionally, e-learning implies an increased workload, but I do consider it entirely justifiable if specific learning outcomes and pedagogical principles have been thought through. This is all a change most academics are not ready to embrace. Yet they need to get ready very soon” (Q39:1:3).

The hierarchical system structuring professional practice also provides important conceptual tools that help academics frame decisions, assumptions and policies with implications on professorial roles and on academics’ rights and responsibilities. E-learning seems to challenge the stability of these values:

“The traditional imagery associated with an academic takes us to a dusty office, where you find an individual writing articles and trying to submit papers to international conferences. In fact, that is exactly what it takes to move upwards on the career ladder. E-learning operates a revolution in existent working models and introduces changes in how the social capital of education is perceived socially. Social capital is related to my capacity, as a teacher, to believe that what I give of myself and what I receive in my exchanges with other actors around me will effectively build a new dimension of work practices. That new understanding has not permeated universities yet. Trust in e-learning depends on it, it requires an emergent understanding of the social capital of education” (Q11:68:135).

Between structure and agency there are elements of continuity and change. It appears frequently, especially among e-learning adopters, that the individual academic is a significant actor in the construction of their own occupational identity. In this case, academics’ agency is perceived as an enabler of self-direction, independent thought and engagement in personally meaningful teaching endeavours.

“E-learning bears a striking ideological affinity with the student-centred pedagogy advocated by the Bologna process. This is

something I have been doing since long before. However, the new operational framework afforded by Bologna allowed me to better organise and structure students' work outside of the classroom and breaking away from the knowledge transfer learning paradigm. Even my on-campus teaching sessions resemble workshops more so than any form of traditional lecture. The idea of coming to a lecture theatre to deploy contents is unfamiliar and uncomfortable to me. I do workshops which are usually a combination of theory and applied knowledge. And I was capitalising on the benefits of the internet for student interaction even before Moodle existed. I used to create interactive online spaces where students could discuss a certain topic, but the corporate concept of an e-learning platform did not exist then" (Q3:5:8).

However, this process is not entirely subjective and many decisions concerning professional practices are constrained by the structures and processes of the communities of practice in which they take place, especially affiliation with a discipline, a programme or a department.

"I think that there have been several attempts at implementing e-learning, although it hasn't been easy because the e-learning boom coincided with significant modification in our programmes of studies. I use to say that we are now beginning to change a system that has been operational since early Modernity and which lasted for a long period. I refer to the lecture model, to yearly courses, to textbooks. Even the educational terminology reflects this philosophy. When we began introducing e-learning, I would talk to my colleagues about "learning outcomes" or "learning objectives" and they would not be able to understand me. Academics are still acculturated to the old regime, they need to be socialised into the faster-paced learning and teaching experiences" afforded by e-learning (Q34:10:15).

A clear illustration of this occurrence is the socially and culturally constructed interpretation of teaching and research as being placed at opposite ends of the academic spectrum.

“Academics are individuals who do research, who work with students on materials that they create, be it writings, instructional content or research outputs. This knowledge transfer process supposedly takes place in lecture theatres and seminar rooms. At least this is precisely what happens at the best universities in the world. I would dare to say that this is what explains their top performance in the world rankings” (Q1:23:25).

This divide is inimical to e-learning adoption and to academic practice in general, because it encourages academics to identify either as teachers with no significant research activity, or as disciplinary researchers and experts who occasionally do some teaching. Those with a strong research orientation tend to feel more threatened by e-learning:

“The objective of e-learning policies is to erode the professional standing of academics, to undermine their credibility, which was solidly established in societies as the creators of knowledge, as the scholar who is not only devoted to forging new theoretical frameworks and explanations but also dedicated to thinking deeply about natural and social phenomena. To a great extent, the crowd is colonising the competence sphere of the academic” (Q1:19:24).

Particularly in disciplines apart from Education, informants tended to perceive teaching and research to be competing endeavours, rather than complementary. Some informants advance the idea that e-learning is an opportunity to pacify professional conflicts and harmonise the key components of academic practice:

“Higher Education Institutions are traditionally evaluated according to scientific performance and seldom according to teaching quality of pedagogical robustness. In practical terms, universities are not

only centres of research, they are places of teaching and learning and they should aspire at becoming the hubs of community engagement, enterprise and partnerships with industry. However, only the research dimension seems to be valued and rewarded financially. Teaching definitely necessitates the establishment of incentives. This does not mean that an academic is not able to personify and harmoniously integrate the three dimensions – research, teaching and enterprise. Technology can in fact contribute to increase the cohesiveness of research, teaching and community engagement” (Q18:13:23).

Those academics whose professional world is more connected to students and classroom teaching are precisely the ones who conceive their proper professional role primarily in terms of imparting a body of knowledge on the basis of subject expertise rather than establishing supportive relationships with their students.

“A difficult problem to overcome is that several academics still think that a teacher’s function is to impart facts, which students should memorise and reproduce verbatim in a test. I could not disagree more with this dominant perspective, as my main concern is that students become able to think critically. My function as a teacher is to make sure I give them the tools and the critical filters necessary to think. And I also work as a tutor, answering their questions and guiding them into the discovery of reliable, quality information” (Q21:20:21).

They reject e-learning because their ideal conception of teaching and learning is pre-technological.

“Problems with incorporating e-learning spring from epistemological considerations. In my opinion, most academics need to understand that students learn by experience and by doing tasks that they

perceive as meaningful. Individuals are not able to execute something that they do not understand, yet they can verbalise. This goes hand and hand with the problem affecting education, which cannot be reduced to declarative processes because knowledge should desirably be performative. Pre-technological knowledge is inherently declarative. When technology becomes a key ingredient of educational communication processes, knowledge transcends the declarative dimension and becomes performative. This means that technology allows me to demonstrate that I am able to do something. This performative dimension shapes my perception of e-learning, because it allows me to integrate spreadsheets and solve a problem; elaborate synthesis; calculate formulae; discriminate between data sets, etc. Technology introduces a performative dimension. When I was a student, knowledge and understanding were entirely declarative because all I was asked to do was to write answers in a blank sheet. Today, technology complements this declarative dimension with a performative dimension and both types of knowledge alternate according to learning objectives” (Q33:16:17).

These are also the academics that prominently position themselves as insiders, beholders of institutional capital, and perfectly integrated in the dominant organisational culture. They accept the aspects of their professional roles and status and tend to present themselves as effective, confident and personally rewarded.

“I honestly feel that for any academic teaching on-campus is personally more rewarding, because there is the opportunity to observe and monitor students’ individual progression and their interaction with the class. It is emotionally more rewarding that teaching online” (Q27:35:97).

Furthermore, they are professionally satisfied with their role as skilful master teachers, wholeheartedly dedicated to their craft. They also represent and express the mainstream sense of job protection and security because their authority remains largely unchallenged.

“The big drama introduced by e-learning is that academics are the complicated variable in the new educational equation. How do we make them fit comfortably? We may in fact conclude that what we need is a teacher who becomes more of a moderator. The problem is that we cannot confidently say that all academics are comfortable with this transition to moderation functions, either because of unpreparedness or sheer disagreement. However this is the new working scheme that is in the making at universities globally. I am actually concerned about a somehow disquieting possibility, which is the complete replacement of human contact if students are invited to choose from the best academics that deliver high-quality, videoconference-based instruction” (Q2:35:65).

In contrast, the way e-learning adopters author themselves is a thread of dissatisfaction with their current condition and with the dominant teaching paradigms.

“I see these changes as being extremely difficult to assimilate by academics. I actually think of the actor network theory and of adversarial relationships at the workplace because e-learning proposes a structural change with repercussions across the board in epistemological processes. This change needs to be accommodated by a network that cushions it, for example through the establishment of bridges and partnerships with research centres to make sure that e-learning is well understood and formally adopted by academics. But all of this takes time, it is a lengthy process” (Q11:27:39).

This often leads them into reimagining themselves differently within academe. They live in the present but also in a future that is projected as better than the current situation.

“I have to teach on five different courses every semester and that causes a massive dispersion of my focus. I spread myself too thin, yet that is not my major problem. The issue is that the university’s administration refuses to understand the need to formally recognise the temporal demands of online teaching. E-learning establishes a dialogical relation with students, much more than in a face-to-face context, where the relationship is asymmetrical and teachers communicate univocally with a mass of students. In campus-based teaching, academics try to adjust and target instruction to the average student, whereas e-learning is more individualised and allows teachers to challenge students, elevate quality and achieve more. Basically, e-learning gives me the opportunity to play with disciplinary thresholds’ levels of difficulty. I can customise teaching and align them with specific learning tasks that specifically request students’ construction of personal meaning. Everything is dialogical in e-learning, incomparable with what happens inside a classroom” (Q4:14:12).

Their idea of successful teaching is based on establishing appropriate relationships, as these are the basis for changing students’ understanding of themselves as learners and their learning behaviours.

“There is a whole new dimension to the instructional intervention of academics. With e-learning they become moderators and critical information curators, their role is inquisitive, they can awaken dormant minds and stagnant standards. With traditional teacher-centred instruction, students were not used to appreciate questions critically. This is completely subverted with e-learning, yet the teacher needs to scaffold students’ discovery of knowledge,

particularly when they are trying to autonomously find answers to theoretic-philosophical questions. Teachers need to open up sources, point out the way to find information, diversify learning opportunities. This is made a lot easier with e-learning and with collaborative approaches to building knowledge” (Q14:10:12).

They are also very critical of the patterns of recruitment and training in Higher Education Institutions, particularly the fact that lecturers enter the profession without any formal training or background in teaching. Another frequently raised concern was that many academics retain strong allegiances to their primary occupational and professional identity, not being fully committed to teaching and doing research.

“Academic life is a part-time for most of the staff. Maybe this is where things need to change radically. I am aware that certain academics’ schedules are designed according to their external professional commitments, so as not to overlap with other occupations. It’s not uncommon to find academics that only come to the faculty one day in the week – the only day they are teaching. And these are not exceptions. Across several departments there are empty offices because academics only come when they have to teach, when there is a departmental meeting, or during the time slot allocated for meeting students. Being present and available at the faculty is not part of this professional culture. Academics self-conceptions are grounded entirely in the idea that they come exclusively to lecture, to be the expert who talks about something” (Q33:28:38).

E-learning enthusiasts further suggest that educational technology offers a golden opportunity for the re-professionalisation of Higher Education, which implies a rupture with the conventional classroom focus of teachers’ work and traditional professional authority, and new forms of relationships with colleagues and students.

“What I mean is that e-learning changes work routines dramatically. It is important to be aware that conducting a live session with your students can be hell on earth and ten times worth than conducting a series of oral examinations. It is not something you will be able to do with a cohort of 25 students. At some point you will have to split them into groups. I had that experience myself. Every week, at the end of an online teaching module, I created a live chat session that helped students discuss and apply that week’s contents. It also operated as a summary or conceptual synthesis. Normally I would act as the debate moderator but only during the initial moments, because as discussion develops I think it is important that they take control and ownership. I call this process shared leadership, letting the group govern action and interaction, posing and answering questions. Leaders are not fixed and they emerge in complementary moments. The best metaphor I can think of to describe this process is a football match, in which the leader is the one who carries the bole forth at a given moment” (Q11:19:23).

Across interviews there were abundant hints of criticism to a culture of individualism, whereby misinterpretations of professional autonomy justified teachers exercising autonomy within the privacy of their classrooms with little accountability, for fear of seeming or being incompetent.

“Instead of spending time, energy and resources in thinking how to lecture a certain subject, teachers need to review their priorities. They need to think of what should they ask students to do in order to learn something. Performance standards need to be actionable and conceived around the execution of supportive, student-centred learning tasks. This conceptualisation of teaching is ignored by most academics, who are excessively concerned with contents and with transmission. The greatest challenge introduced by e-learning is that it operates a decentralisation from content transmission,

traditionally lead by the teacher. With e-learning interaction for task execution take the lead. I am aware that it is all too easy to describe this transition. The real difficulty lies with making it happen in practice” (Q30:42:86).

E-learning is frequently advanced as an opportunity to break away from the status quo, increasing collaboration and openness, and eliminating barriers against innovation simply because the opportunities for academics to hide behind the protective shield of individualism would cease to exist.

“There is a profusion of misconceptions and reverberating educational undertones. It is an absolute urgency to get rid of them. An academic is not someone who comes to the university to teach 3 or 4 hours and then leaves and goes home to mark assignments. Academics’ role is substantially different, but it needs to be acknowledged and rewarded. The system should prize the active academic, the academic who design instructional contents, the academic who uses technology and tries to innovate. This type of academic still needs to gain their peers and their students’ recognition. But it is urgent to imprint creativity to teaching. Nevertheless, it is not necessary to create everything from scratch or to reinvent the wheel. There are thousands of contents available everywhere and ready to be customised and adapted according to specific contexts and needs. Academics still lack this openness, this transparency in knowledge creation processes; because the most natural thing is acknowledging that we always depart from someone’s creation (Q40:28:82)”.

4.1.1.9 Student-centred learning

This barrier originates in the tension between objectivist and constructivist approaches to teaching and learning.

On the one hand, there are academics who assert that knowledge is an external entity that, once identified, can be optimally organised, processed and disseminated to learners. Direct instruction is then the preferred method of these academics, being conceived as an educational intervention driven by specific outcome objectives and assessments that determine if the desired changes in behaviour learning have occurred.

“For academics, adopting e-learning entails a transformative learning journey. Most of my colleagues still fail to realise that the world we live in is overloaded with information and that this is an irreversible process. We will never be able to know everything that is out there. Even the narrowest specialised knowledge that we hold today will become obsolete very fast. What we need to invest in is the organisation and validation of information sources for students. That is what every academic should do confidently, because students tend to retrieve insufficient, unreliable or outdated information. Academics will increasingly become information and knowledge managers, and that’s a comfortable position for them. They should stimulate students’ autonomy and realise simultaneously that this change in the professional repertory does not imply a downgrading of status or professional authority” (Q31:18:24).

Instruction is teacher-centred, and the process of traditional learning design emphasises prescribed instructional objectives, congruence among objectives, methods and performance standards, hierarchical analysis of a specific content to be learned, and externally-prescribed instructional activities. Instruction is directive in nature, tending to be more concerned with a result than with the process of deriving or extracting it.

“There are extreme cases but it is still common to find academics who think that their experience is the only source of knowledge their students need to use. Though problematic, it is not exactly surprising to me. The same type of behaviour abounds in conferences too, like when you attend a session given by an outstanding scholar who turns out to be a solipsist. In a similar way, many academics interpret their teaching sessions as conference sessions. They are the informed masters who make their address to the attentive audience” (Q39:14:46).

This approach is antagonistic to the student-centred learning paradigm, defined by informants as a way of thinking about teaching and learning that emphasises student responsibility and activity in learning, in which knowledge is regarded as a tool and in which the teacher assumes the role of coach.

“Quite honestly, I was happy to confirm that the pedagogical ideas contained in the new teaching arrangements introduced by the Bologna agreement match my philosophy of teaching. Students hold a responsibility share in the learning process and Bologna call for a re-centring on the student. Since this is something I already try to put into practice, it was not difficult for me adjust to flexible delivery situations, in particular the blended learning system” (Q5:6:2).

Thus from a student-centred perspective, knowledge is not imparted from an authoritative source. Rather, all knowledge is created as individuals make sense of their experiential worlds. This view of knowledge construction implies that students cannot be taken as empty vessels: they are empowered to pose questions and solve problems. The locus of intellectual authority is relocated and is no longer the monopoly of the teacher and the resources.

“My reflection on pedagogical practice is not technology-driven. Actually, in my opinion, with or without e-learning the distance between teacher and student decreases to the proportion that

students' accountability, control and responsibility for their own learning increases" (Q13:23:41)

This view on learning results in a pedagogy that focuses on supporting students in the process of meaning construction, whereas a teacher-centred orientation, that informants consider to be dominant across HEI, focuses on the transmission of defined bodies of content and knowledge.

"A fundamental aspect in e-learning is student-centred learning. Online teaching and learning should stimulate reasoning and learner's reflection. It is not meant to encourage mechanical reproduction of knowledge. I always warn people against this: students are not some kind of extension or addition to the keyboard. Students are integral beings, they have their own awareness and reasoning, they want to intervene. This is extremely important, because we are naturally welcoming to whatever output a machine gives us. The tendency is that we accept it unquestionably and that's what we need to reverse" (Q32:61:92).

Defectors of teacher-centred instruction criticise it for its limited capacity to support higher-order thinking and for reducing learning to the behavioural processing of information and oversimplified knowledge.

"I am sceptical about this call for student-centred learning. I do not see an element of truth or intellectual honesty in there. I see it more as a collective attempt to decline responsibility. Universities no longer want to take responsibility for imparting knowledge. I take it that letting students learn on their own is a signal of underinvestment on the university's side. I am not comfortable with that expression at all" (Q8:31:49).

However, evidence from interviews confirms the prevalence of the traditional lecture as much preferred delivery mode, with teachers providing information that is passively received by the students.

“I can hypothesise that a possible explanation for the prevalence of the lecture as a central teaching method is that it suits traditional disciplines. But I admit I do not like the qualifier “traditional” for it is too slippery. I can even concede that a discipline such as Law, which is not so traditional in the end, may actually need traditional delivery methods. It relies essentially on orality and verbal interaction, on face-to-face work that develops in amphitheatres loaded with students. Still technology could maximise benefits and perhaps allow for the extension of the number of course attendants. Even supposing that this traditional way of delivery is the one they prefer and wish to maintain, they could at least create videocasts of their lectures online. Then, instead of 300 students they could easily reach 3000” (Q36:15:29).

This practice is contrary to learner-centred principles that some interviewees refer to as typical of e-learning environments, where technology becomes a key ingredient in the processes that affect learner-centeredness.

“The success of e-learning lies in strong learning dynamics, which is both individual and social. It leads to critical reflexion and to collaboration, but this requires the presence of a coach to motivate students, to make them work with each other. Despite the obvious gains of collaborative learning – students get mutual support – the skills acquired are directly transferable and match contemporary market needs” (Q20:33:55).

Online learning environments that are student-centred provide rich data-bases, tools and resources that support self-directed inquiry and information seeking and retrieval. The

process of coming to understand is developmental and associated with exploring, inquiring and constructing representations or even new artefacts.

“Change in educational processes implies change in the authorship regimes and students should be producers of content. I refuse the idea that students are passive recipients of knowledge. But I also think that it is necessary to know the times table off by heart. But there is a lot more out there than this. Students need to have undergone the experience of creating content or artefacts when they leave higher education. This is the fundamental idea. Learning is not limited to reception processes. Of course a learner needs to assimilate information, but the next logical and necessary step is the production stage (...)” (Q11:56:97).

However, while at face value the potential of student-centred learning environments seems compelling to some academics, the epistemological and logistical problems associated with implementing them seem difficult to handle to others.

“This entire buzz about student-centred learning sounds fabulous but to me it is all too idealist and it does not fit day to day teaching. Where in this world can we find a group of extremely engaged and challenging students following their philosopher, like Socrates’ disciples? It is difficult, not to say impractical that each teacher dedicates time and attention individually to every student. It’s difficult to achieve personalised attention” (Q15:11:20).

Distance and time separation between the instructor and the student are perceived as obstacles to establishing a sense of community that effectively supports inquiry and collaboration in an online environment.

“Teaching with e-learning means in practical terms that the teacher needs to give more information, to select very carefully every word

employed to signify a given meaning – all because the student is alone in their learning. We will not be there next to them to follow, expose or decompose their train of thinking. The student’s task becomes to individually achieve a clear understanding of subjects in such a way that operational concepts and learning objectives are clearly aligned and responsive. This is a much more demanding process both for the student and the instructor” (Q47:9:13).

Also, the mere availability of text-based resources is perceived to be restrictive and not many academics seem to be familiar with the idea that e-learning systems are not designed so much to instruct as to provide contexts wherein understanding and insight can be cultivated through immersion in authentic learning experiences. In particular, the features of visualisation, simulation and modelling are increasingly embeddable in e-learning systems, creating the possibility for networking and collaboration and reducing communication distancing.

“The survival of the academic profession relies on the realisation of a new educational function. Academics need to internalise a new professional repertoire, the core of which is facilitation and being able to guide students into interpersonal communication greater disciplinary awareness. That is teachers’ effective contribution, their extraordinary added value. If teachers fail to understand this new mission, then it is almost justifiable to replace them by e-learning applications” (Q16:28:108).

Those familiar with the affordances of e-learning, highlight how learning management systems facilitate the management of electronic resources and make student-centred alternatives possible and feasible.

“One of the courses I teach is very theoretical and one of strategies I adopted to make it more dynamic was to assess students’ postings to discussion fora and mark it. These marks contribute to their final

result. I usually create a discussion topic and leave it open for 15 days. During this period of time, I give students several hints about complementary sources and further readings. I post my own response to the discussion thread and students can change or update their posting until I close the topic. In the end of the final posting is assessed. This means that in practice students are self-regulating their learning and working to perfect the quality of their submissions. They negotiate meaning, they collaborate yet they know they have to be original and different because it's not possible to cheat" (Q19:31:50).

One lecturer in Economics emphasised his use of e-learning platforms for problem based learning. Each unit in his module is initiated by the formulation of real-life problems for the students' self-governed work, which immerse students in a context that is relevant to professional practice and which need to be solved within a set period of time.

"The main idea in problem based learning is that students should work out the solution for a particular problem with real-life application. The understanding of key concepts and their proposed solution for the problem they are assigned occurs at checkpoint meetings, but I am available permanently online to help students throughout the process. But it is very intense. There is a stimulus session during which the case and the problem are introduced. Students are expected to dissect this problem and I check if during this stage they covered points previously defined as critical" (Q37:32:136).

The point is that during the running of a unit, students work on problems that require more than memorisation and understanding of concepts – what is asked is the application of knowledge to determine the best outcome. E-learning tools directly support the active process involved in working on problems and continuously constructing a solution. The

selection of tools for construction, presentation or collaboration such as weblogs and wikis manifests the self-governing nature of the learning process.

A further experience is recounted by a lecturer in Communications, who is engaged in the development of personalised learning environments for the students of his department, combining the use of Web 2.0 tools to integrate curricular learning outcomes with lifelong learning. In personal learning environments, he describes, learning takes place through social oriented tasks and the relationships, spaces, contents and resources are personally customised, organised and maintained by students rather than being controlled by the instructor:

“My main research area was the use of learning management systems, but I then moved to platforms that are essentially supported by Web 2.0 applications, which are a lot closer to what students use in their daily social interactions. Now there is institutional support to integrate these applications – mainly blogs and wikis - and students can compose their learning environment as they see fit with development needs” (Q16:30:45).

4.1.1.10 Different knowledge bases

This barrier is related to differences in curriculum and teaching styles across disciplines in higher education courses, which academics argue to be transferable into the design of e-learning contents or activities.

“I can easily identify cultural factors that act as barriers against e-learning adoption. If I think about my own department, which actually deals closely with technology and communication, I can see the contrast and the completely different reality lived by less technically-oriented departments in which the academic staff do not

feel so comfortable. But I think that this is natural and justified to some extent. Computer science departments, schools of education and electronic engineering departments are expectedly more inclined towards e-learning adoption. Their staff are naturally curious and mostly naturally ready for take-up. It is a cultural readiness that may not exist in other disciplinary fields. Additionally, we have the advantage of making our research interests and teaching practice strategically aligned” (Q48:10:17).

Consequently, academics possessing different knowledge bases and coming from different disciplinary backgrounds will manifest different views, expressed in the tailoring of specific affordances to address disciplinary goals (i.e. multimedia visualisation of abstract content, problem solving through tutoring systems, remote experimentation, asynchronous learning networks and communities of practice).

“Disciplinary differences are an obstacle to a smooth mainstreaming of e-learning because obviously I cannot suggest that a Geography teacher organises the same type of instructional activities than a Portuguese Literature Reader. E-learning is a transdisciplinary and in transdisciplinary practices it is not possible to homogenise practice. I may be able to identify key traces, but the referential needs to be re-adjusted or re-created, depending on the content or disciplinary area I am addressing” (Q18:21:44).

Differences among disciplines also occur at the level of interaction established. Having students interacting with contents is a rather static process where learning occurs as a monologue. Substantially different instances of interaction are learner-teacher iterative feedback, or even peer-to-peer comparison and extraction of understanding, which enable a more socialised change in understanding.

“I have inquired first year undergraduate engineering students and education studies students about their preferred pedagogical

methods. Engineering students prefer direct instruction, they like when teachers present the subject or solve exercises using slides to demonstrate facts or support the knowledge being transmitted. (...) On the other hand, education studies students have different preferences and this indicates how different areas of knowledge are associated to different cognitive styles. Students of this area enjoy teacher-led PowerPoint presentation for the purpose of information systematisation. However they welcome the existence of critical debating, hence the invaluable contribution of e-learning platforms” (Q51:10:15).

Concerning the issue of discipline-based approaches to e-learning development, one informant recalls the difficulties faced when the Medical School where she teaches tried to implement electronic assessment as a replacement to oral examinations. Academics soon complained that electronic assessment would act as a barrier to verbal interaction that is a fundamental cornerstone of doctors’ training, particularly if we consider how critical it is that a doctor understands the description of symptoms.

“In this faculty, I have always thought that e-learning could be useful to deal with student assessment. However, one of the barriers to e-learning adoption is that instructors are not willing to abandon the assessment methods that have been traditionally in use, such as oral exams. Because this is a Medical school, they are convinced that orality is a much needed skill in the medical profession. Consequently, the assessment of medical knowledge needs, in their perspective, to ensure verbal communication and physical presence. And the academic staff are actually very sceptical about any assessment methods that do not involve verbal interaction” (Q45:18:16).

A lecturer of Mathematics, for instance, has stressed how hard pure sciences deal with content that is typically fixed and cumulative. Ideas are tested in a linear form of

argumentation, because the cognitive purpose is the development of logical reasoning, which in turn is grounded on core facts, principles and concepts. Assessment is understood here as relying eminently on the quantitative nature of knowledge, using specific focused exam questions.

“We developed a web-based exercise generator, which used to be embedded in the learning management system and is now available through computers at the library” (Q38:12:3)

Consequently, the predominant approach to e-learning in this case is didactic and presentational, with reflection being prompted by self-test questions or computer assisted assessment, which generates automated feedback. Because teaching is intensive and the subjects are concerned with mastery, electronically published study guides, or problem databases are more easily made accessible to students.

Not being radically different from hard pure sciences in the predominant approaches to e-learning, hard applied disciplines such as Engineering have nevertheless specific cognitive purposes, curricular contents and preferred assessment strategies. Engineering lecturers, for example, claim that their disciplinary focus is on products and techniques, which implies mastery of the physical environment.

“E-learning in engineering creates a deficit because it is difficult to learn how to perform as an engineer or to enact the engineer virtually. I can have thousands of images or animations yet nothing will replace feeling how heavy a machine is in reality, to experience why it has such weight and why does it have a particular scent. An engineer needs to touch and feel materials; they need to be in the laboratory to experience what the equipment does. This physical dimension is not replaceable by bits” (Q41:36:61).

The discipline’s cognitive purpose is then oriented to problem-solving and demonstration of practical skills that derive from the integration and application of existing knowledge, if possible through total immersion in real or simulated professional work environments. A

disciplinary-related use of e-learning that has emerged in interviews with academics is experiential and related to production (i.e. conducting real-time experiments in remotely operated laboratories, individually or co-operatively).

“In cooperation with a company we gave our students access to a remote access laboratory, entirely controllable online. The laboratory was based at the partner company, but it was available online to our students, who could run experiments, tests and practical assignments. They could even ask help from the company’s engineers using Moodle discussion fora” (Q15:9:33)

Furthermore, models, simulations and visualisations online allow students to observe, test and apply theories.

“The website created with this project allowed us to visualise and simulate phenomena that are very difficult to reproduce in a classroom environment or in a laboratory. With the help of animations and high quality graphics students can visualise and understand phenomena such as magnetic fields, which are typically difficult to understand” (Q13:7:40)

A different use of the affordances of e-learning can indeed be found in the social sciences and humanities, where the cognitive purpose seems to focus more on creativity in thinking and broad command of intellectual ideas. Knowledge-building is understood by academics of this disciplinary field as a formative process, with teaching and learning activities being largely constructive and interpretive.

“In the Humanities it is a lot easier for a teacher to assess a student’s creative input and critical argumentation skills than it is for a teacher of Biology or Engineering. Those need to become more familiar with alternative methods to assess critical thinking, for example portfolios. It is not easy to work with e-portfolios if you don’t have

the experience and if for all your professional life you have assessed your students with exams” (Q15:37:63).

Whilst a very common use of learning management systems mentioned by a wealth of academics seems to be presentational (i.e. pointing to external resources), the dimension of visualisation is also explored with interactive tutorials.

“I realised that year after year I had to repeat core concepts for this module. It represented a great effort, as it was specifically related to demonstrating how to use certain audio and video applications. This has prompted me to direct and produce video clips so that I didn’t have to go through all the same procedures all over again. This is perfect for very proceduralised and stable knowledge, which is not very likely to change rapidly. It took me a lot of personal time and effort, but now the video clips are accessible to my students either via my personal website or via the platform. And I can also play the clips in face to face sessions. (Q16:8:29).

A Lecturer in Political Science, for instance, explains how creative thinking and fluency of expression are fostered with the use of web publishing formats, which allow learners to develop a sense of participation in a community of inquiry:

“I set up a group on Google Groups because the institutional learning management system was discontinued. But it worked extremely well. Students participated enthusiastically and I actually had to ask for volunteers to help me moderate discussion. What I mean is that the kind of participation and interaction generated, which involved questions being answered online, drafts being commented, students suggesting materials they discovered autonomously, was a very important learning journey that I am sure equipped my students with fundamental transferrable skills” (Q23:6:15)

On the other hand, applied social sciences with an emphasis on the enhancement of professional practice, seem keener on exploring the possibilities of personal growth through interaction and communication with peers. Knowledge is perceived as reiterative and holistic and, in disciplines such as Communication Studies or Management, academics explore the capabilities of wikis and discussion boards to convey problem statements and facilitate problem solving.

“It seems to me that best strategy would be to use the digital presence as a resource and not as the single vehicle for the dissemination of knowledge. It should be a learning resource, an enabler of individual learning, available when the student needs to structure understanding, extract sense or apply knowledge to a specific circumstance. (...) Conversations, interactions, positions and statements all need to be made legitimate with support from established knowledge, arguments, authors, credible studies. A student may not agree with certain positions established and accredited as formal knowledge, but that they can always count on a prevalent sense of liberty that warrants them the chance to interrogate and challenge. This questioning is what opens up new processes of inquiry” (Q51:24:51).

4.1.1.11 Ownership and control of knowledge

Tradition has historically established that academics own the copyright in the course material they create: lecture notes, hand-outs, tests, articles, syllabi and other materials. This ownership reflects the idea that the aforementioned contents are products of academics’ effort and intellect. Moreover, it reifies the close connection between a university teacher and the courses they teach. It ensures that the academic remains the ultimate decision maker about course content, which is an important tenet of academic freedom. However, interviews with academics revealed that the growth in e-learning threatens this model of ownership.

“I still think that there is a latent fear about opening up contents. The closed classroom culture, closely tied-up to the exclusive use of resources designed by the instructor is still prevalent. What this means is that these academics believe their instructional resources are theirs only. They exist only for their use, they are not share with or seen by anyone else. This is the mainstream line of thinking. There is a widespread fear of change, openness and any idea of making contents globally available is labelled as threatening or subversive” (Q11:70:139).

Several academics reveal reluctance in acknowledging that it is legitimate for the university to use their materials without attributing authorship. Moreover, what these academics seem to resent the most is that the HEI that employs them could lawfully revise and modify their resources or use them in a different context, without the author's consent. Academics mostly claim to create materials on their own time, investing a significant portion of their instructional effort into designing courses or contents for online delivery, with little specialised support beyond the normally provided by the university. They are concerned with the continuing use of electronically published materials beyond their sphere of control, as HEI may claim rights to use and distribute contents without compensation.

“I would have to comply do anything the university determines, but I would maintain my right to disagree, to hold and to intimately stick to an opinion. If the university forces me to upload my contents and instructional materials online I will do it. However, I will manifest my firm disagreement. The university can only appropriate what it legitimately supports. If I don't get any support from the university to produce my instructional materials, I fail to see how it can legitimately claim ownership over them. Once support is available, the situation changes. At present the production of e-learning contents or learning objects depends entirely on instructors' free time” (Q26:32:60).

Ultimately, some academics have even reported the misappropriation of contents by colleagues and students without their permission.

“I very soon realised that this is an abusive situation and I had to take action. Just the other day I eliminated one colleague from one of my online course’s participant’s list. I typically leave my module open online to any participant during the first week to facilitate students’ registration. Before I could even realise it once of my colleagues signed up to attend the course. I am sure her only purpose was to download all the instructional materials because I had already made PowerPoints and resources available. I had dozens of materials there, which equal hours of my hard work. I created tutorials and guides for students’ autonomous work. I had to kick that intruder out. To me this was an outrageous behaviour; she would not even say a single word to the remaining participants in the course. Her purpose was all too clear” (Q30:12:26).

Finally, one of the prominent worries is that of plagiarism by other academics or even other HEIs. Many of the academics interviewed gave accounts of their materials, course design and even entire syllabi being copied and misappropriated by external entities after visiting open access resources made available by their institutions.

“There are many academics that refuse to produce online contents because they fear that colleagues from a different faculty adapt or steal them. They are very insensitive to the paradigm of open culture or to the very idea of sharing knowledge. They ignore that intellectual property is protected and regulated by very easy and practical tools such as creative commons licenses. They need to understand that increased openness is actually beneficial because knowledge sharing is part of the virtuous knowledge creation cycle. It is not uncommon to come across a very cynical perspective in various disciplinary fields. The dominating perspective is that

academics can maximise benefits and gain competitive edge over their colleagues if they restrict their knowledge to a limited, intimate circle. It's a very simplistic view of knowledge of the academy. It is underambitious and completely disconnected from the purposes of knowledge creation, quality and innovation, which require openness and the input of many angles. Ignoring this fact impacts negatively on the quality of teaching and learning processes" (Q40:27:75).

By identifying academic freedom as the foundational principle of professional identity and by finding that issues of copyright are closely tied to both academic freedom and scholarly work, academics advance the idea that ownership of materials is a substantial root cause of slow development of e-learning, whilst simultaneously inhibiting academics from making more educational content available to the online community.

"There are very reluctant academics; some of them actually refuse to publish their contents online. They simply don't do it. I attribute this to an over-zealous behaviour, a frantic attempt to preserve authorship and to prevent their instructional contents from circulating freely" (Q8:22:39).

4.1.1.12 Defensive routines³

Defensive routines are courses of action that academics develop in order to protect themselves from perceived threats of technology enhanced learning or feelings of lagging behind in adopting e-learning. These routines are developed in the context of complex organisational problems (e.g. the confrontation with hierarchical demands to start using an LMS or the perceived inability to adequately integrate technology in a transformative way)

³ The term is employed in the sense originally proposed by Argyris (1992) to describe routines used by organisational members to avoid embarrassment or threat. Despite preventing open conflict and preserving the status quo, they work against organisational learning and regeneration.

and are composed of thoughts and actions used to protect academics' ways of dealing with reality and proposed change.

“The usefulness or the benefit of e-learning depends on what each teacher objectively achieves by using it. I do not think that e-learning is able to introduce any element of novelty into the teaching and learning process. It is quite simply a supportive technology. The good and the bad habits a teacher grows in face-to-face teaching can easily be translated into e-learning. A poor teacher who uses traditional delivery modes can become an even worse online instructor. The magnitude of the disaster can potentially increase if the instructor fails to understand that e-learning requires generous amounts of tutoring and close follow-up of students' activities. However, this is very difficult to explain. Particularly because it is difficult to track instructors' presence online, two different instructors can have a completely different use of their teaching time online, having been allocated the exact same amount of time” (Q8:7:13).

Because they imply persistence in individual understandings of what is adequate and rational – therefore maximising personal gain and suppressing negative, uncomfortable feelings – defensive routines impede academics from opening themselves to change and to the possible costly dimensions of change.

“Occasionally I use the platform to post news or notices, because it is an excellent tool to keep in touch efficiently with all students. I have some past experience of using the e-learning platform to conduct assessments or to receive students' assignments. However, I soon came to realise that this was not the most practical solution, so I regressed to having students emailing me their assignments. If you ask me why I do this, I may not have a very clear answer. It may be self-indulgence or maybe I am too lazy to upgrade this system. I just

find it easier to keep things like they are. I also don't use chatrooms and discussion fora and I am quite obstinate in this decision, it's almost a personal principle. But if I self-examine my reasons, maybe at the bottom line I am just too lazy and never really put a real effort to make things happen" (Q24:1:3).

Defensive routines are for this reason counterproductive, standing in the way of academics' learning and professional development, and impeding students from enjoying more sophisticated applications of educational technology.

"If I were an exemplary teacher I would intensify my contact with students online and accept blindly the associated costs of reshaping my traditional duties and exploit the full potential of e-learning. But I am not an exemplary teacher and as you may have understood by now I have the most conventional use of e-learning. It is not advanced or sophisticated and it does not even get near to everything that is possible to do with e-learning. I am perfectly aware of that" (Q24:6:12).

They remain attached to a false idea of satisfactory performance, which is a comfortable cover up when the adoption of e-learning is perceived as an anxiety-inducing situation, given for example the risk of embarrassment for technical inability or the fear of losing their job.

"Most academics miss the creativity necessary to operate the pedagogical integration of e-learning tools. Academics are so used to the established models of traditional teaching. The core business there is structured presentation and knowledge transmission, the teacher is a mere vehicle whereas students are recipients. Being accommodated to this idea of teaching, academics find it difficult to access new approaches and apply new ideas, essentially the idea of an independent learner who uses technology autonomously in a self-

paced manner to solve problems, share ideas, construct and apply knowledge. This cognitive leap is missing in academics' heads and there is an attachment to the procedural safety granted by how teaching traditionally develops" (Q4:35:42).

Academics feel threatened by the changes introduced by e-learning because these changes require search for new meaning and adaptation to a renewed organisational culture. In order to protect themselves, academics decline the risk of learning and behavioural change and continue to operate consistently with their beliefs and assumptions.

"(Laughter) My mind is not very clear about that issue so I cannot stick to a definitive idea. Academics still remain attached... Maybe in the beginning there was a small change in attitude. But it was a surface, superficial change. Deep inside little has changed, practices are deeply entrenched. What most teachers do is cosmetics; they relocate their courses reading lists into websites and not more than this. The use of e-learning is narrow and unsophisticated" (Q14:46:80).

This course of action remains largely unchallenged to minimise conflict. As a result, opposing views are silenced, errors in thinking and practice go unexamined and poor decisions go unverified.

"Despite the rhetorical manoeuvres of those who claim to employ the concepts of active learning, student-centred learning and the whole skills agenda, a simple reality check is enough to realise it is all ethereal. If you read through course handbooks – they no longer bear the name of syllabi – you will find objectives that are only responsive to a reductionist view on contents and assessment. The teaching strategy is geared to transmission and assessment instruments do not go beyond the exam. Practice remain unchanged, which begs the question of how is technology used by academics? I

will be blatant and answer: e-learning exists to make instructional resources and PowerPoints available. Students are fed up with PowerPoint handouts!" (Q11:33:138)

Defensive routines are essentially conflict avoidance strategies, but they can create extreme complexity in HEI. Every time an academic shies away from confronting the issue of e-learning adoption head-on, an additional layer of ambiguity emerges.

"A poor teacher can easily get away simply with spending their time reading notes loud in a lecture theatre. This terrible example of bad teaching performance could be eliminated with a peer observation system, in which teachers observe other teachers' teaching. The problem is that we have not even achieved satisfactory levels in the quality to teaching that takes place in universities" (Q15:23:42).

Fudging decisions that are adopted at large scale was a frequently reported defensive routine mentioned across interviews. It was not uncommon to detect academics who go away with their chosen interpretation of what e-learning is, which means they can effectively do what they like and still claim to be doing what a HEI has agreed to do.

"Deep inside we all know that everything that involves information and communication technology does not change work routines on its own. If we are against it, things do not change at all. Information and communication technology may actually not change the way academics teach. It may even produce pernicious effects. Whenever I think about this, I always have the same joke coming to my mind. It's that joke about the interactive whiteboard and how it is used in primary schools. It goes like this: in the past pupils were forced to recite the times table, which was written in the chalkboard; today they recite it facing the interactive whiteboard" (Q34:5:9).

Additionally, many organisational policies and practices are geared to perpetuate defensive routines and to protect individuals' comfort, especially senior academics' comfort. Bureaucratised performance management processes, in particular grading and reward structures, can very easily be manipulated to help academics to remain within their comfort zones, avoid conflict and rationalise away acts of change or innovation, which they perceive as risk-laden.

"I am worried about the creation of an immobile status quo, an implicit armistice between academics and students. It is an armistice because this apparent cessation of hostilities is not declared and it is aimed at securing each party's interests. It is as if academics would ask students not to bother them too much with teaching, because their time is better employed in writing articles and in publishing. On the other hand, students use the same type of thinking, but their negotiation endeavours achieving a restful state, in which academics don't make a fuss about their performance and don't make waves. This relationship becomes lax and it engenders increased permissivity and decreased control. I see symptoms of this emerging problem everywhere around me. It's like the institution of forceful peacekeeping. Teachers buy students' silence about poor performance by not asking them to do too complex tasks. Conversely, they don't get too bothered with teaching. In practical terms it works as a mutual non-aggression pact" (Q32:40:67).

4.1.1.13 Risk-avoidance culture

Risk avoidance culture describes HEI's conservative disposition - an intuitive suspicion of innovation schemes, an intrinsic affection for things as they are, an inclination and self-identification to being reconciled to the general situation, and a tendency to evaluate policy and reform in terms of disruption avoidance, rather than utopian aspiration.

“Aversion to change is somehow inevitable. Academics in particular are very conservative; they have conservative ideas about knowledge and how knowledge is produced. I think it is normal that when confronted with e-learning, some academics take time to acquire and develop a cognitive capacity to contextualise the tool” (Q16:61).

Conservatism then becomes a disposition that grants the status quo a normative authority by virtue of its being the status quo. This definition specifies not only a dispositional approach to avoiding risk, but also a strong bias in favour of the status quo as something normatively desirable.

“It must be noted that the threat of change is a shadow hovering over many academics’ heads. What I find curious is that the simple existence of information and communication technologies is framed by some academics as a threat and that for this reason they reject the. They reject the new kind of pedagogical relationship that technology establishes and a new functionalisation of teaching tasks” (Q34:6:10).

Risk refers to volatility in a situation whereby both positive and negative outcomes can occur. Consequently, risk-averse individuals will likely continue performing in more routine ways rather than take a chance with new approaches.

Protecting HEI from the prospect of risk associated with the untried or untested may partially elucidate why a great number of academics adopt a risk-averse stance.

“At individual level only those academics who feel the necessity to improve teaching and learning with technology will operate and effect the change to e-learning. If this need is not felt, academics will remain attached to old habits. Most academics have developed a working culture and working models that they perceive as efficient

and they extract comfort from this perception of stability and continuity. We also need to observe that the surrounding environment is extremely harsh and unwelcoming, which reinforces the permanence of academics within their comfort zone. There is danger in innovation. Academics have a heavy teaching load and very large cohorts of students, who are actually more interested in obtaining a good final grade than in learning. This perception contaminates academics' inertia. They will pursue teaching methods that keep students satisfied and content with this narrow vision that associates educational success with a grade at the end of the semester" (Q50:21:23).

However, academics' risk aversion towards approving ideas for action or implementation offers another dimension to consider. In this view, academics conservative actions may be seen as an expression of pervasive political power: a conformist self can be the reflex of a self-disciplining workplace that ties individuals to their situated and unchangeable identities.

"Fear and distrust are the most general feelings I can sense in academia regarding e-learning. Academic staff with basic computer and IT literacy skills will be able to cope. Developing trust and letting go of fear comes with learning how to use e-learning. Technophobia is still very prevalent and it is the main obstacle to effective learning. People fear to fail. We are not machines and academics are very aware of their debilities and weaknesses. They don't know how to transform them into competitive strengths" (47:48:102).

An organisational predilection towards control, formalisation and routine - characterised as doing the safest possible thing- is central to the risk-averse stance.

Evidence from interviews shows that actions taken by academics are consistent with this precautionary principle, which serves a valuable protective purpose as a first response to what is new and potentially disruptive to institutionalised practice. In this case,

precautionary behaviour suspends or replaces rational decision-making, which is usually based on a comparative benefit/cost/risk analysis.

“There are different reaction spectrums and sensitivities across universities. It is possible to find extremely enthusiastic academics that are openly favourable to e-learning, but these co-exist with academics who consider e-learning a negligible entity, an overhyped creation that bears little value. (...) [I]t is a psychological barrier, a socio-behavioural issue, which root cause lies in a chronic replication of established routines. It is so common to hear in corridor conversations “I have always done things like this, why would I have to change?”; “things have always works this way” or “I say the hell with this modern things”. All these reactions denote enormous resistance. I think this is a conflict of generations and a general fear of change” (Q12:39:48).

It can be added that risk analyses have pragmatic uncertainties based on the limited available knowledge base. For this reason, many academics do not see the need to innovate, even if the prospects for experimentation-in-action do not bring disastrous consequences for the operating conditions of HEI.

E-learning as a change that requires the devising and evaluation of new performance programmes not previously part of HEI’s performance repertory is overshadowed by strong safety cultures and norms, which reinforce mission and goals, and focus attention on procedures and rewards structures.

New, unproven ideas may be interpreted as unacceptable risks against the previously established and non-negotiable aspects of academic practice. Hence, rather than fostering a climate of experimentation, the organisational focus is on making the tried up prevail.

“I think that at institutional level, there is a widespread lack of motivation to do things differently, to innovate or be an agent of change. Academics fail at acknowledging that things can actually be done differently, that there are better ways of teaching and that

there may be benefits in e-learning. Even the way lectures are structured translates this idea that the agents involved in the provision of higher education are incapable to change practice or innovate” (Q44:14:23).

Not being encouraged to engage voluntarily in self-regulation against these norms results in only a minority of academics suspending the need for control and predictability in order to acquire habits of inquiry and experimentation with e-learning.

“It is not possible to impose change. The processes leading to change are focused on persuasion. You win someone’s trust and understanding or you can persuade someone into trying an innovation. Ideally, you present someone with rational arguments and you buy them into e-learning. And then, despite acknowledging that the process may entail initial risk, the willingness to run that risk is strengthened by the prospective benefits of enhanced teaching and learning” (Q5:10:6).

These are the academics that challenge the fixed operational thinking - which is rational, logical, and measured – creating opportunities for innovation through taking risk, thinking at a global scale, allowing for intuition to come into the equation, and letting go of old forms of doing things:

“E-learning is a transformative force; it holds the capacity to completely change the university as we know it. It may drive us to break the norm the established canons of knowledge production and aspire to excellence, because now we can have team works that aggregate critical mass from China, from Japan, Australia, Brazil and the USA...” (Q11:46:85).

4.1.1.14 Resistance to innovation

Resistance to innovation refers to academics' individual tendency to resist and avoid making changes, to devalue change generally and to find innovation aversive across the context of professional practice. It is employed as a work-orienting concept, signifying difficulty in coping with change in routines, motives and preferred ways of doing things. As a barrier, it reflects academics inability to cope with the changes introduced by e-learning, their perceptions of themselves and their self-conceptions of initiators of change.

“In the context of Higher Education there is a dominant resistance, it is an attitudinal problem and it is urgent to break it. There is a resistance against technology and there is resistance against the status of knowledge or the representation of knowledge status. There is also a resistance grounded on disputes about intellectual property and about opening and disseminating contents that used to be exclusive to the teacher-student relationship. All of these aspects shape up a category that I affiliate with emotional resistance; it's an affective dimension that conditions and affects academics' attitudes” (Q3:7:11).

According to the evidence collected in interviews, resistance to innovation is present at different levels.

It may translate academics' reluctance to lose control of deeply institutionalised and experimented approaches to learning, especially the organisation of teaching provision in compartmentalised time slots such as lectures. When confronted with e-learning, academics have emphasised loss of control and the obliteration of their presence as a vehicle of knowledge as a primary cause of resistance. Resistance to change is then a response which aims at regaining control over life and work situation, particularly when changes are imposed on academics rather than being self-initiated.

“One of the greatest problems with mainstreaming e-learning is the traditional academic, whose only concern is to keep on lecturing as

they have done through their lives. That is the only model they know and the only they are willing to adopt. Its core features are an emphasis on transmission, and overly structured presentation of contents. The result of enduring in this model is a massive resistance against e-learning platforms, despite evident efforts from the Chancellor to persuade faculties to move into online delivery” (Q20:8:15).

Resistance to change may also occur in the absence of fair redistributive processes. The redistribution of tasks and responsibilities introduced by e-learning was mentioned frequently as a cause for academics losing some of their valued privileges.

“You don’t have to be a genius to realise that if the quality of teaching has no impact on your performance assessment and in your career advancement, then the most rational choice seems to pursue more professionally rewarding activities, such as publishing. Understanding this is not rocket science” (Q10:18:28).

There is also the issue of dogmatism and unwillingness to adjust to new work situations. Backed up by their authoritative status and sense of professional autonomy, some academics endure in a state of cognitive rigidity and close-mindedness. In this case, self-interest prevails, as academics wish to avoid the harmful consequences of the innovation.

A further symptom of resistance to innovation occurs when the change introduced by e-learning is interpreted as a stressor.

“The reality we experience currently in universities is dual or better said tripartite. There are academics that remain attached to an old regime ideology. They coexist side by side with e-learning enthusiasts and maybe with a third sandwich category comprising those academics that are now experiencing a transition. For the first group, composed of academics who have been teaching for more than 30 years, change is a mirage because they insist their methods

are successful – their methods are right because it has always been like this and the possibility of changing current teaching practice is unconceivable” (Q21:22).

More resilient individuals will reveal greater adaptability to new contexts. However, less resilient academics will be more reluctant, fearing that admitting the faultiness of previous performance entails an unbearable loss of face or undesired impacts on job security, professional expertise and social status in the organisation.

“The first immediate consequence of introducing e-learning is the change it causes in academics’ work routines. It forces a paradigm change and I think this was of describing change is not excessive. However, most of the academics I have contact with do not seem fully aware of the nature and depth of change. Not being aware of the implications, they engage in a process with unforeseen consequences, because they ignore the differences in approaching learning and teaching online and are unaware to the increased workload” (Q16:2:3).

One additional aspect that emerged frequently was the perceived incapacity to adjust to new situations, usually because it involves a significant disruption and increased workload in the short term. The perspective that adopting e-learning requires learning and transformation results in many academics refusing to endure adjustment periods. Since familiarity breeds comfort, academics prefer to remain trapped in the web of custom and tradition.

“Sometimes during meetings we discuss around the table the possibility of developing online courses and I clearly sense that the idea gets under people’s skin. I don’t know if the reason to what this happens is that they will have to do new tasks they are unfamiliar with. That may be the reason because if you start teaching online

you certainly need to master a new set of competences that involve more than delivering a lecture, isn't that right?" (Q43:12:16)

Resistance to innovation is also attributed to low adaptability and to the psychological comfort extracted from well-defined and familiar frameworks of operation in opposition to the stimuli associated to innovation and novelty. Change and innovation imply loss of a previously standing referential, which some academics equate to experiencing a loss of identity, of belonging, of meaning even.

"E-learning truly challenges and questions the role of academics. It questions their knowledge and the very foundations of the teaching practice. E-learning is not compatible with the foundations that used to sustain the traditional university. The traditional university was exclusivist; it cultivated niches of excellence that were not democratic at all. The advancement of knowledge was historically associated with niches of discovery, elites, micro schools of thought that controlled progress and evolution. What we face now is a battle against innovation and the continuity of that previous model that certain groups wish to maintain. Some sectors hold on to continuity, they expect the canons to be respected and followed. From my point of view, this is the biggest problem e-learning acceptance faces. Perhaps my thinking is divergent to the mainstream. I see this problem as academics' difficulty in coping with change and in embodying the construction of innovation" (Q11:53:99).

A loss of meaning can be particularly devastating when academics feel that the occupational values that have sustained performance over time are changed, engendering a perceived loss of mastery and forcing the acquisition of new skills in order to perform the job properly. This seems to be aggravated when e-learning is understood as culturally incompatible with the traditional ethos of HEI:

“The adoption of e-learning needs to be preceded by a deep reflection about epistemological processes, about what it means to teach and learn. It is only when we think processes through, when we are able to align a strategy with specific objectives, and when we envision how teaching and curricula will be structured that we can claim to be ready to adopt e-learning. E-learning needs a justification and a contextualisation, because teaching today is substantially different from teaching 20 years ago, when the prevailing educational scenario relied on structured presentations and transmission of concepts. Today, teaching is an enabling process, it is ensuring with give every student the tools and the capacity to develop individual competences and to become a lifelong learner” (Q13:2:4).

In face of the above, academics will be reluctant to invest their personal resources, such as time and skills, in assimilating the change introduced by e-learning unless they are sure that their investment will realise an adequate return. They may regard the transactional cost to be too high, in which case their attention will be turned to forms of resistance and self-protection.

“Every social system takes care of self-perpetuation. When considering the adoption of e-learning in Higher Education, it is necessary to run a deeper analysis, to understand academics’ fear and concerns, to negotiate with them. Imposition is not a solution because their agreement will be necessary to conduct organisational adjustments and changes to many of the established operational rules. If our nirvana is that all academics use e-learning platforms to facilitate teaching and learning in their courses we need to think of the most adequate route. In my opinion that route is made easier when academics are shown examples of innovation and when they find excellent online practice to model themselves after. This can start at a very basic level. The first steps can consist of learning how

to create a digital hub for the course, where handouts, news feeds and discussion fora are aggregated” (Q50:12:13).

4.1.1.15 Prejudice

Prejudice is a manifestation of sceptic academics who often regard e-learning as a poor approach to training and development. Comments sustaining this perception often range from the idea that e-learning creates a bad environment for the learner, through to more dogmatic views ascertaining that e-learning cannot possibly replace classroom-based teaching.

“I doubt that the majority of academics populating universities, in particular those who are tenured, will manifest any interest in e-learning or use it all. I am very sceptical about it. To achieve adoption we would need to work hard on eliminating prejudice, in particular prejudice against new technologies. If we pronounce the word “e-learning”, it’s an absolute disaster. In people’s minds it resonates low quality teaching. E-learning brings to most of academics’ memories the experience of educational television, which in this country was a replacement of traditional education in rural communities. Some even associate e-learning to correspondence courses, which is a derogatory image” (Q32:31:59).

Prejudice is grounded on a strong allegiance to the face-to-face teaching model allied with scepticism about e-learning, particularly around issues of quality, workload, and loss of control.

“The penetration of e-learning in traditional Higher Education Institutions is made difficult not because of technological issues but because of professional conceptions and strong biases. There are

issues with academics' daily professional routines, with the educational system's structure and organisation, and with the social value attributed to e-learning. The social construction of e-learning is not exactly positive; there is no substantial image of quality, reliability or trustworthiness attached to it. Nevertheless we know that in practical terms the quality of learning experiences is of high quality, comparable to face-to-face teaching. It is simply undervalued and despised" (Q43:11:12).

However, overcoming prejudice is not a straight-forward process and some suggest that it entails undergoing a hands-on experience of the affordances of e-learning, and the consolidation an empirically-grounded perception of value:

"To fully understand that e-learning is a rigorous teaching methodology, I recommend a shock therapy. I mean that it takes to practice e-learning to eliminate all prejudices. It takes being engaged in all active processes by which teachers follow up on students' progress and understanding, read discussion threads in fora, encourage participation, mentor and provide pastoral care to disengaged students, and instigate collaboration. Only someone who has gone through all of this will fully appreciate the hardness of the process and realise how time-consuming it all is. Those who miss the reality check will keep on thinking: "ha, e-learning, these folks can always get away with doing less work than the rest of us. Their face-to-face teaching time is reduced and all they need to do is read students' assignments" (Q31:30:56)"

Many of the sceptical academics are enthusiastic devotees of the classroom, which they consider irreplaceable.

For some, the advantage of individual online learning at students' own pace does not supersede the buzz from good teaching and the social interaction in campus. Excessive reliance on technology, some argue, may even lead to increased isolation and to students missing the experience of Higher Education as a social acculturation process. To support this claim, they cite the alleged high drop-out rate in many e-learning programmes and the dissatisfaction with impersonal and dehumanising experiences:

“What was sad and frustrating to me was that I never really got to meet those students in real life and that was a disaster on so many levels. The cohort was very heterogeneous, and that is extremely difficult to sense when you are teaching online. Online it is difficult to understand students' different paces” (Q2:6:9).

Additional sources of doubtfulness towards e-learning are rooted on the hard-earned reputation of traditional universities, steeped in centuries of classical academic tradition. E-learning can be perceived as risky business because of issues of credibility, competence validation and social acceptance.

“The academic staff that are sceptical about e-learning need to realise that e-learning is functional and that it ensures quality delivery of education. And I would stress the word “quality”. And this aspect is well documented throughout the literature. It is also something that I perceive from my individual practice and that I sense in conversation with colleagues. For example, when I had to prepare my public lecture for habilitation⁴, I decided that I would reflect on my e-learning experience and even prepare an e-learning

⁴Agregacao - requirement for access to higher professional ranks in Portuguese state owned universities. Evidence of independent scholarship and of the candidate's teaching ability are assessed during a public lecture, assessed by a grand jury composed of internal and external Professors.

session. Many of the colleagues I shared this idea with were extremely fearful for me, and asked me if was comfortable with the juries' potential reactionary position or failure to recognise the validity of e-learning as a teaching experience. I must say that I decided to assume this risk. I am still preparing that lecture but I will not concede on this point. I think we need to endure in a tough combat to make sure that e-learning is recognised institutionally and to ensure that e-learning formats are perceived as high quality processes in Higher Education. The advancement of this objective is entirely dependent on the academic staff – it is us, the academics, who need to work out the many ways through which to offer evidence of quality that satisfy the concerns held by sceptical or scornful senior staff” (Q42:8:18).

Some of the interviewees go as further as to question the receptivity of employers to hire graduates whose training was eminently conducted online.

“The simple suspicion that e-learning may cause breaches in reputation or prestige is enough to dissuade take-up. There is still the idea, also among employers, that e-learning is less prestigious than traditional teaching. This conservative stance defends that proper teaching takes place exclusively with face-to-face contact with a teacher, who is available to answer every students' questions in loco” (Q32:41:70).

The institutional prestige of a traditional university may not act as a predictor for high quality online programs, so there is much to lose from potential failures in implementing e-learning. This is consistent with the realisation that distance-learning enrolment is more suited for non-elite institutions still persists, acting as a barrier to change.

“Traditional universities' reputation is - at least in theory - grounded on the self-proclaimed quality of its campus-based teaching, which

many institutions are not willing to gamble by developing risky e-learning programs” (Q27:5:13).

This cognitive framing of e-learning is extended to assessment of learning, with concerns raised about the authenticity, academic integrity and ownership of students’ work.

“More than being resistant to change, I would say that most academics are actually extremely insecure because they ignore the benefits and the basic operation features of e-learning. They are also insecure because they are control freaks and won’t easily give away any control power. I get the same question all over again from different colleagues. They all want to know how they will be able to know that the work submitted is actually authored by students. In the first place, that should no longer be an issue because it is only the student’s loss if the assignment submitted wasn’t theirs” (Q18:31:71).

Some academics ignore that the types of interaction and work arrangements established online – with a strong emphasis on verbally expressed personal identity – contribute to a deeper knowledge of individual students’ personalities, learning styles, preferences, needs, strengths and weaknesses:

“When you teach a course online, you actually get to know your students a lot better than in campus-based instruction because all their work and presence leaves a trace - a written trace. It is possible for the instructor to monitor the writing style, the personality conveyed in writing and certain specific patterns such as the way a particular student typically approaches tasks or behaves in a discussion forum. I truly believe that it is possible to know students in greater depth because all activities are recorded. There are several tools that facilitate this monitoring of performance and good

instructors soon realise that their students consolidate a certain pattern of behaviour online” (Q19:33:54).

Another typical example comes from one lecturer who finds it difficult to manage and assess students who passively lurk and extract ideas from others in discussion fora, instead of contributing constructively to the discussions he initiates online:

“I don’t know what to do with students who lurk, and I find it extremely difficult to deal with this non-contributing behaviour, which is obviously very negative to all other students. I must find a way to show that it is just not OK to remain disengaged” (Q42:8:15)

However, practitioners of e-learning counter argue that quality online learning provides many opportunities for assessment. These opportunities do not necessarily need to involve the teacher, rather relying on exploiting the influence and expertise of peers, on the use of machine algorithms to assess production, or even on encouraging learners to assess their learning reflectively, for example through “involving students in the revision, assessment and feedback of work developed online” (Q16:9:33).

Sceptic academics resist nevertheless. They perceive e-learning as an attempt to establish a consumer model across HEI, in which courses and modules are growingly shaped to satisfy student tastes with little effort. Ultimately, they fear the pressure for serving up easily digestible knowledge, which they argue has disastrous effects on academic standards and student motivation.

“The use of e-learning in Higher Education needs to be subject to careful analysis and consideration because I think it is extremely dangerous to infantilise students. Young first year undergraduates get to university thinking that learning needs to be easy, fun and enjoyable. Being easy in their perception means that they will not need to bother or make a real effort at all” (Q26:9:20).

The view that there is an unhealthy move towards university becoming an extension of school is endorsed by several informants. In particular, interviewees worry about the widespread assumptions that students need constant fun and motivation.

“Learning is not a dinner party, it’s no fun. Unfortunately, to get students engaged, we the teachers need to forget our principles and keep on making things easier for students. I perceive this to be a very harmful trend. A serious university is a place very people come to work, not to have fun. Learning in Higher Education cannot be degraded to the basic level of observing animations and fun drawings” (Q26:8:16).

The infusion of this idea in Higher Education has led to the institutionalisation of a pedagogy that tends to infantilise students, mainly through the use of digital technology to present concepts and information in a playful way, which neglects the fact that contents are not always easy to understand and accessible. In addition, learning is not always an enjoyable process.

“E-learning can lead to the infantilisation of students on a number of fronts. It is a latent danger, that of making things simpler, easier to understand, funnier, game-like, oversimplified. Even the use of extremely basic levels of language is controversial, in my opinion. If I try to use certain verbs or more sophisticated terms, I run the risk of not getting my message across. Students simply don’t understand the use of language beyond basic statements. I have had that experience and it was a simple quantitative exercise. Students could not interpret the question and failed to solve a mathematical problem” (Q32:16:22).

This line of critique states that by infantilising students and removing responsibility for their own engagement, educational technology may actually have the perverse effect of discouraging students to develop their resilience and capacity to cope with difficulty.

4.1.1.16 Erosion of high status professional identity

For some critical informants, shifts towards technology-based teaching represent the drifting away of higher education from its traditional ideological functions of promoting reason and enlightenment through direct contact with disciplinary experts. They critique in particular the managerialist application of e-learning which, they argue, has little concerns with enhancing quality or improving the student experience.

“I do not share this government’s enthusiasm for e-learning, and the promise of additional funding for universities to extend their course offer online. The rationale behind this transformation is the marketisation and objectifying of education. Education is to become the creation of artifacts, self-sufficient learning objects. In a first instance, academics will be called in to produce them with an obvious impact on their workload. The second stage will be a dismantling operation. The academic will be disposable and discarded. Finally academics will occupy a secondary position, behind the emergence of new frontline occupations and professions related to e-learning, such as learning technologists, teaching fellows and assistants who do not need to hold specialist disciplinary knowledge to deliver content or to design learning objects” (Q5:16:12).

Many academics perceive e-learning to go hand in hand with a lowering of standards prompted by massification, with dehumanizing experiences for both instructors and students, and with a vested interest in undermining the professional standing of academics.

“It is not easy to sensitise academics to the benefits of e-learning if they offer counter-arguments such as concerns about learners’ isolation if their learning experience will imply a technically-mediated interaction with teachers. They refer to this as cold interaction, entirely dependent on the affordances of technical equipment, and implying the loss of warm, human contact. They

perceive e-learning as a poor replacement that limits human capacity, subjugating it to the machine and making the human mind more dependent on externalised capabilities such as memory. What these sceptical individuals fail to understand is that when computers allow the interaction between individuals, the machine becomes invisible and we are able to reinstate human interaction” (Q43:3:4).

Specifically, erosion of high status professional identity refers to the perception that e-learning introduces changes in the principles of self-direction and discretionary judgments on the occupational control of academic work.

“The erosion of professional status is one of academics’ main concerns. I would dare to say that these are political and ideological matters. This debate is taking place now because of the European-wide crisis that affects the social state within the context of open economies. It translates serious concerns about labour rights and job security. In Higher Education, it translates concerns about academics’ professional careers, which have historically been stable and secure. The debate is certainly taking place and I am very sure that academics will not be able to defend the current features of their careers. I foresee changes in the tenure system and in the progression to higher ranks, which will cease to occur automatically simply because I went through a series of previous stages. New forms of assessing performance are certainly in the making and this is the result of growing social pressures aimed at transforming academics’ traditional job security into something more flexible” (Q7:30:50).

Any university’s determination to move its units online in order to gain market advantage would result in academics feeling de-skilled, re-positioned by the technology and also offended in their autonomy. Should any imposed e-learning platform driven by regulation

try to replace what every academic as an individual considers being good pedagogy, a reactionary position is expected.

“I have observed that when confronted with e-learning, a great number of my colleagues’ first reaction is to wonder “what is that?”; after which they usually ask “and what do we need it for?”. What follows is a very significant resistance. Even when someone takes the time to explain them what e-learning is, the majority relates it to a direct threat to their job security and to their function as teachers” (Q21:12:11).

Traditionally, the field of university education is conceptualised by academics as highly autonomous in that it generates its very specific organisational culture composed of behavioural imperatives that are independent from either political or economic forces. When e-learning is understood as an entity that is inimical to academics’ ego, adoption becomes a problem:

“The academic who perceives themselves as a unidirectional source of knowledge tends to analyse and frame e-learning as a threat, because e-learning is a centrifugal, de-centralising force. It is obvious to me that e-learning does not imply any reduction of teachers’ importance. Academics will never cease to accomplish teaching tasks and will never be replaced. And I stress this last aspect very strongly. What changes is the way in which work develops. (...) What remains a problem is that the decentralisation proposed by e-learning goes against the ego of academics and it is extremely difficult to deal with this” (Q18:28:64).

The problem is that the main values and activities in the academic field revolve around the acquisition and development of intellectual capital – always related to scientific authority and always controlled by the university body’s instruments of reproduction. Some

informants call for a major transformation in what societies demand of HEIs and student preparation for the market:

“I seriously consider that the social construction of what citizens expect from education is fast changing and shifting from what used to be a theoretical dimension to the practical level of application. Perhaps the values of Higher Education need to reflect this change. Maybe the university as a physical entity will collapse and all will become entirely virtual because what society praises is the individual, the richness of individuals’ personal competences, what individuals are able to deliver and achieve in concrete terms. Anachronistically, universities are still populated by academic staff that criticise heavily a competence-oriented learning agenda. They fear the erosion of erudite teaching, which is already underway. Only a minority of the academics I know consider this change a positive process, particularly the fact that teaching is now centred on the development of individual skills and on the possibility to expand competences that are applicable in real world contexts” (Q18:14:26).

Regrettably, e-learning is perceived by many as a threat to the professional control over the political and managerial circumstances surrounding academic practice. It also forces teachers to think differently about themselves as instructors, to engage in novel educational activities and reconsider their position as experts.

“A significant source of resistance against e-learning has a psychological origin. The traditional concept of the university in which the academic was a king within the four walls of a classroom is fading. But on many academics’ view the prevailing mindset is still the one of teacher who controls all processes and is able to conceal it from any external party’s observation or scrutiny. From the psychological point of view, opening a window towards what used to

take place behind closed curtains causes extreme malaise”
(Q7:25:41).

Some informants observe a sort of managerial standardisation of their teaching role and methods online, with prescribed and restrictive responsibilities and procedures. Therefore, they feel that they have lost the occupational power to control their professional work. It is as if academics are increasingly treated as operatives (who connect students with information) rather than decision makers – their role has become to implement the judgment of someone else, particularly because the scale and complexity of introducing e-learning requires a strategic approach to implementation.

“To my best knowledge, the determination to start using e-learning was centrally decided, yet with significant resistance, so the administration was forced to slow of the pace of its reformative agenda. I can think of several causes to this backlash, the main being that asynchronous e-learning requires the very careful preparation of pedagogical resources. This entails a much more significant effort on the academic’s side and it bears an inherent risk. That is the risk of dissociation between the teacher and what they teach. In here lies the source of all disagreement and low motivation – the latent risk of dissociation. On the other hand, in face-to-face delivery, the physical teaching presence and being a vehicle of specialist knowledge is what generates value. Students come to their presence to learn, they meet the authoritative figure. Learning occurs when the academic is present; their de facto contribution to students’ learning is effectively dependent on their presence. If academics start preparing very good quality learning resources for asynchronous online delivery, then it becomes possible that students self-direct and self-regulate learning. By encouraging students to learn autonomously, the need for the presence of a teacher is questionable and redundant because the core of their contribution to the learning

process takes place when learning materials are designed. The realisation of this is upsetting for most academics” (Q27:13:33).

Following the same train of thought, several interviews were distraught at how negligent and careless about their studies learners seemed to be, in a time when teachers do their utmost to motivate them and to engage them with educational contents. Some of them wonder if things are not being made excessively easy or playful, mostly because learning does not always have to be fun.

“So the student is comfortably sitting at home, possibly in his pyjamas and room sleepers, expecting to download everything into his computer, and he has no time to come into the department. My position is that the more we make things easy for students, the less valuable we are and the more disposable we become. Then our function is severely reduced and limited to a few moments of interaction: I would use the email to talk with my students, upload resources into the platform, answer questions also by email, release grades online. The student would have no immediate need to meet me personally. Now don’t tell me that in this situation does not lie a terrible danger – the danger of irreversibly corrupting the pedagogical relation, the danger of diminishing the teacher and, above all, the danger of jeopardising students’ opportunity to learn” (Q41:33:61).

Consequently, the majority of the interviewees rejected the idea of restricting their role to online teaching roles and revealed a nostalgic feeling when institutional time was based on academic patterns and less on managerial pressures that conduct to a feeling of fragmentation in the way professional time is used.

“E-learning means overwhelming bureaucracy and additional workload. Academics no longer have the opportunity or the time to dedicate to the kind of activities they should be pursuing. I mean,

they should be free to read books, to write articles, to be engaged in scholarships networks and aware of what their peers are thinking and doing. I am nostalgic about this type of academia” (Q1:37:48).

They regret that their field of action seems to be increasingly confined to operational academic management, essentially translated in the administration of online learning environments.

“There is a remodelling of the academic profession. It is not merely a restyling; it is a deep transformation of defining functions, which lowers the standards of what used to be a high reliability and a socially recognised occupation. But there is a business purpose in all this transfiguration of academics’ roles. The idea is to keep a smaller number of exceptionally good academics and ask them to produce high quality contents. The new emergent category would entail the transformation of hordes of academics in teaching fellows, whose responsibility is to act as tutors, provide explanations, answer students’ questions, etc. There is a plan to de-skill academics, to destroy this group’s professional ethos. And there are a number of issues related to this process” (Q1:21:24).

This also signifies that academics find it difficult to articulate their teaching online tasks and, in the same way, continue to orient their academic and intellectual life towards teaching face to face and conducting research in their disciplines.

“Teaching online with e-learning platforms is not something that most academics find dignifying or comparable the solidly established fields of knowledge that they represent, such as Anatomy. There is a noble feeling that goes hand in hand with representing the knowledge of a specific discipline. Being a teacher is almost like being the ambassador of that discipline. Teaching a particular subject is perceived as way to dignify one’s discipline. However, teaching

always comes before my standing as a researcher. And I think this feeling is applicable to several disciplines, from Medicine to Engineering” (Q45:38:50).

Some of the informants even describe their attempts at making greater use of educational technology in lecture rooms as disruptive to their presence and interaction with students. A common trend emerging in interviews was the pervasive use of PowerPoint in lectures, which academics perceive as conditioning free flow of discourse or sometimes the development of reasoning by reducing teaching to the mechanical process of slide changing.

“I cannot stand this current obsession with PowerPoint presentations. In my opinion contents are not so linear. Reality is not linear, so content cannot be so condensed or artificially transformed in something easier to decode. I refuse the idea that in instruction the medium is the message. Education cannot become entertainment. Higher Education teaching and learning requires time to read and time to digest difficult readings. There must be time to complete a task and even the communication of knowledge or of an idea is part of the learning process. It is not something superficial or a negligible activity” (Q33:15:16).

There are nonetheless other aspects of e-learning that academics associate with a potential erosion of their professional identity. Evidence from interviews indicates that the effective utilisation of e-learning by academics requires a considerable shift both in skills and conceptions of learning and teaching. A perceived lack of expertise and technical skills on the part of academics can be debilitating and even threatening to their sense of self-worth, particularly when students’ expertise seems to be more advanced than their own.

This realisation further breaches academics’ role as expert knowledge intermediaries as they realise students rely less on them to access information, because of the growing range of electronic resources available online.

“I think that the Internet has shaken the foundations of teaching as a profession and of the teacher’s activity as the conveyor of knowledge. Books and the knowledge held by teachers are no longer the only sources. (...)Academics have lost the monopoly over knowledge, their centrality as knowledge managers has vanished and teachers now have to accept the fact that there is competition from other sources. What I think is that the majority of academics still hasn’t coped or adjusted their cognitive frame to this new reality, to assume that there are hundreds of other sources and that they need to dive deep into them to operate as mediators and living guides to navigation. This is my perspective. And I would add that the problem grows even bigger because academics lack the incentives to operate changes in their professional behaviour” (Q32:19:31).

Being largely concerned about students’ inability to discriminate valid sources and reliable information, academics are also worried about the change in power balance between themselves and students. In particular, they question their role as knowledge gatekeepers and some seem to believe that greater student control in the access to knowledge from open sources may downgrade the status of the academic knowledge they hold and consequently lead to a de-professionalising of their practice.

“I fear that the sense of job security may be lost or revised with the introduction of modifications in contract relations. What I mean is that we are nearer to having academics being hired as learning consultants or independent contractors whose services are requested depending on variable need. I do see this scenario as realistic because universities will soon realise that the greatest share of revenues comes from e-learning students and no longer those who used to be campus-based” (Q5:19:16).

Additionally, there is among several informants the perception that e-learning requires a transition from the transmission of expert knowledge to modes of teaching that comprise

validation of knowledge and skills constructed or extracted from sources that transcend the confines of traditional disciplinary discourse.

“I think it is essential that academics realise that they need to step back or go one step down. They do not own the stage and this is the time for students to go centre stage. The brilliancy of the learned lecturer ceases to be the perk that comes with the job. The greatest personal reward and fulfilment should come from being able to support students’ intellectual development and growth into independent, critical individuals, who become employable. That is far more important than standing in front of a lecture theatre acting all pompous. To summarise, my advice would be that academics are self-effacing enough to move from opposite students to sit alongside students” (Q48:35:61).

In practical terms this may mean coming to terms with the idea that academics can no longer aspire to be the limitless source of all knowledge there is. Being prepared to deal with the absence of a concrete answer becomes a must, as so is being ready to equip students with the information literacies that capacitate them to find and filter the answers themselves.

“Teachers need to overcome their own complexes and admit that the occurrence of a student’s question for which they do not have an immediate answer is not in any way a sign of weakness. (...) What teachers need to do is to come down from an ethereal dimension and be placed at the same level of students. In reality, teachers never stop learning and updating knowledge. E-learning brings along the end of dogmatic, compartmentalised knowledge. All knowledge is permanently evolving and being revised. And that is a good thing” (Q48:36:63).

These concerns feed into a greater fear of potentially being replaced, even when there is the acknowledgement that e-learning helps systematising, organising or presenting knowledge to students. There are lecturers frustrated about making materials available online because this will negatively affect attendance in lectures or seminars.

“E-learning can be framed as an attack on the social value of teachers. I question myself and discuss this problem with colleagues. I wonder if I will actually use Moodle next year and in the future. Student’s behaviour is disengaged and they show no respect to the teacher, let alone any interest in learning. They don’t take notes in class; sometimes they don’t even bring a notebook or a pen with them. So this got me thinking that maybe they’ll pay more attention during lectures if I tell them that I’ll stop uploading handouts into the platform” (Q6:22:42).

They believe that campus experience should be the primary reason for students to come to university and are disappointed by a diminished authority to regulate face-to-face contact, when students make an *a la carte* choice of which sessions to attend, knowing in advance that learning can be self-regulated and self-paced if materials are available on e-learning platforms:

“Students have voluntarily arranged their very own blended learning. And this is more and more noticeable in traditional HEIs. Students only attend the sessions that are of specific interest to them or the ones where they know there will be discussion, brainstorming or experiential learning activities. They purposefully reject lectures because they think they can source the knowledge transmitted from elsewhere” (Q10:5:34).

Consequently, after investing time in developing contents such as podcasts or recordings of lectures for streaming on demand, some academics feel that e-learning threatens their intellectual capital by packaging their expertise into ready to consume learning objects,

which can be delivered to students without their mediation, or even with the mediation of cheaper staff such as teaching assistants.

“I soon started to realise that my institution, the faculty that pays my salary at the end of each month, besides assigning me a face-to-face teaching load, was now requesting me to produce contents for e-learning delivery that would feed an online platform. Now I wonder who is able to guarantee that I will not be made redundant after I invest all my knowledge and effort in producing such contents. After producing that knowledge base I become disposable, my institution can fire me if they decide so and hire someone at a lower rank for less money to deliver the contents I had produced and to take my course over. I think this is not an unrealistic scenario. Nevertheless I find it immoral” (Q30:14:29).

Some academics take this idea to the extreme, and fear that the mainstreaming of e-learning, with the resulting specialisation of learning objects’ producers and content facilitators (tutors) may encourage staff redundancies:

“I fear that e-learning will operate as a driver, as an instigator of a managerialist administration of Higher Education Institutions. Between these and textile factories there will be no significant difference. Academic staff will be as replaceable as key workers in a factory’s production line. From the moment I produce free standing learning contents, I give my institution and argument to make me redundant, they can simply tell me they don’t need me anymore, because a teaching assistant or a teaching fellow can replace me. So with e-learning we move towards the establishment of two figure heads: a minority of academics who produce contents and a majority of tutors who do not hold specialist knowledge, but who deliver content, monitor students’ learning and deal with the bureaucratic

administration. In my opinion this is completely suicidal for universities” (Q11:73:153).

4.1.2 Structural-organisational assurance: Strategic level

The structural barriers at strategic level that influence academics’ capacity to change and develop a more solid basis for favourable e-learning adoption are predominantly associated with how innovation is welcome by the professional group. On one hand, they are related to an organisational culture which is characterised by hierarchy and strong status-orientation. On the other hand they reflect academics’ risk aversion – a rejection of innovation because it is either related to governmental and market pressures or because it is framed as a potential threat to the professional group’s core beliefs. Compatibility of knowledge seems crucial for acceptance, yet e-learning seems to signify an abrupt and fracturing, which is difficult to change.

4.1.2.1 Monolithic academic culture

This barrier emerges when academics perceive that innovation, reform and change are not topics that leave structure and tradition behind in HEI. Academic structures are not easily moveable and what is in place determines and conditions present and future courses of action. The heavy hand of history permeates the structures and beliefs – a developmental process that crystallizes practice.

“University’s resistance against e-learning is acted upon by inertia forces, heavy forces that are conservative of traditional teaching and learning practice. The culture of professorship is entrenched and it is not possible to separate it from a dominant conception of instruction as transmission of knowledge” (Q3:9:16).

In face of a disruptive innovation such as the introduction of e-learning, internal minority segments of HEI may thrust themselves powerfully into the future, but the core will snap back with considerable resilience, rejecting changes that could seemingly alter standards of operation.

“There is a dramatic problem corrupting Higher Education Institutions. Ideas and processes remain unchangeable and people are so comfortably accommodated to their habits that they claim for continuity. They refuse any change in the status quo. The vast majority of university’s academics claim the maintenance of the status quo. The good news is that recently our university invited a group of external examiners who came from the UK to assess the institution’s performance across several indicators. It seems that their appraisal was corrosive but the results have been kept hidden. The majority of the academic staff carries on, deluded and believing that this is the best of worlds” (Q2:16:23).

Academics claim that HEI are subject to strong inertial forces, which means that they respond relatively slowly to the occurrence of threats and opportunities in their environments.

“I still think that the main reason why e-learning hasn’t been mainstreamed or achieved a maturity level that would be expected across universities is the organisational structure and operation of institutions. Traditional approaches to managing operations stand in the way of innovation and e-learning is perceived as a threat to the status quo” (Q7:22:38).

According to the evidence collected, constraints on structural changes in HEI seem to be twofold. On the one hand there are strong inertia pressures arising from internal arrangements. The basic operating units are typically dominated by the collegial and at times oligarchic arrangements that academics have constructed and applied in crucial

matters such as doing research, hiring personnel, producing learning designs, or evaluating students.

“Managing universities’ information and communication capabilities is a very complicated task. These include tasks such as strategic information planning, strategy implementation, sourcing and organising information function, which is extremely difficult to achieve in a collegial structure. Electronic processes of information management are not compatible with heavy decision making structures; they imprint a fast-paced timing. It is obvious that archaic organisational arrangements have effects across the board in e-learning implementation and in managerial decisions about staffing or workload allocation” (Q7:24:39).

On the other hand the government, operating as a major source of funding and sector regulator, offers public legitimation to the different layers of organisational activity.

Universities are long-established systems: they have built their own sources of continuity and they display a mature structure and culture of their own to guide interaction with the environment. Some of the more problematic structures identified in interviews are the strongly developed structures of work, belief and authority. Sectorial hegemony is found on how budgets are entrenched, how the personnel are fixed in categories, how decision-making traditions and rationales become rooted, particularly the rationales that preside to the attribution of reward or the regulation of professional promotions:

“The jury that assessed my habilitation lecture was not ready to accept that I teach using e-learning platforms. E-learning creates a revolution inside the microcosm of Higher Education Institutions, which are traditionally static and venerate validation and accreditation rituals. Even in a habilitation lecture, which theoretically is the moment to provide competence of teaching ability, what is at stake is after all the scientific merit of the candidate. After my undergraduate studies I did not study for a

Master's degree but I had to go through a formal assessment of teaching and disciplinary competence, which assessed candidates' capacity to structure and convey knowledge, and which, sadly, has been discontinued in universities. I still wonder why this step, which was a defining moment in any academics' early career and which formally operated as an entry point has been withdrawn" (Q3:33:66).

The monolithic nature of the Academy is also informed by how academics perceive disciplinary affiliation as a defining trace of organisation in departments – each representing a specialised field and each competitively focused on advancing knowledge by publishing research results. . Each discipline has a bounded body of knowledge, analytical approaches and methods. Furthermore, advancing research is heavily rewarded by academic structures and regulations. As a consequence, academics will feel encouraged to proceed in ways that protect their legitimate interests.

“Producing instructional resources is far more demanding intellectually and time-consuming than writing a few conference papers. In all reality, only a small minority of academics is aware of this difficulty. If my performance appraisal is indexed to the number of papers that I write, it is obvious that my colleague who wrote 10 papers will benefit. If instead I was engaged in producing a dozen of instructional videos, the decision on my professional progress will be deferred because of insufficient information. I simply lack the magical papers. Nevertheless I worked as hard and I can even be a better teacher. But no one sees that and the lunatics who invest in e-learning will always be the underdog. No one in the capacity to decide someone's career ladder advancement will realise the injustice. Advancement within this professional hierarchy is formalised and completely insensitive to pedagogical performance. I end up thinking that the pedagogical value of the videos I produced

was completely underappreciated. Maybe it was too innovative for them to understand” (Q9:41:52).

If HEI elect, define and defend research a principal area of professional concern, conservatism around discipline-driven objectives is expected to prevail. Research academics will first answer the call of their research interests and only secondarily take note of what students would like to have as learning contents and outcomes.

“Had I accepted to follow the orthodoxy and probably today I would be doing everything following traditional methods, teaching in lecture theatres only and devoting my research time to a rigid interpretation of my scientific field. Any attempt to conduct interdisciplinary studies is not entirely welcome. I feel it in my department, which being a computer science department seems contradictory. However, whatever escapes the prescribed canons of computer science is unwelcome, minimised and not formally acknowledged. The sad part of it is that diverging from mainstream understandings of what teaching and research should be is personally costly, particularly in terms of career advancement. Had I not chosen to research the use of e-learning and maybe my professional life would have been less bumpy, more comfortable and certainly institutionally cushioned. However, I collect personal fulfilment from what I do, so I prefer not to sacrifice that” (Q44:48:75).

This problem exposes the strain occurring across HEI between the tendencies of research and scholarship and the requirements of transmitting and distributing knowledge to students.

“Nothing in the Teaching Profession Act and Regulations, which is the statutory framework for Higher Education, forbids or goes against the development of e-learning and a greater investment in

the scholarship of teaching. The problem lies with organisational culture and with the questionable principles of academics' occupational culture, excessively centred on the "publish or perish" mantra. What if I wish to publish reflective accounts about my instructional experience using e-learning?" (Q45:34:43).

However, current approaches to teaching are also subject to criticism, with academics denouncing the tendency, among their fellows, to derive knowledge from respective specialties and pulling it together in packages designed in a discretionary fashion. It is common for universities to follow internal staff desires and place teaching and service on a take-it-or-leave it basis.

"After the democratic revolution, freedom was a flag held high but it was misused across different sectors of the society. Universities in particular demonstrated considerable immaturity and revealed an acute incapacity to grow up and develop in a climate of autonomy and independence. Growth meant essentially massification and expansion of the student population. However, most of the internal structures remained opaque, enclosed and attached to the former governing style. The way universities organise their offer is not aligned strategically to meet students' demands or students' profiles. We need academics with pedagogical expertise, academics who are concerned with improving students' learning process" (Q37:11:31).

Considering all the expressed above, a number of associated questions quickly come to mind concerning the difficulty in embedding e-learning and in changing the ways of delivering education. The answer is found on the largely shared perception that the autonomy to design curricula and to deliver them embodies HEI's identity with reference to the broader society.

"I enjoy the idea that universities are powerhouses of research and production of knowledge. However another core business of

universities is teaching. Universities are teaching and learning ecologies and this is what brings students here in the first place. Students demand of universities the provision of learning opportunities. E-learning is fundamental in universities' capacity to attract students. But universities cannot hide or pretend to ignore what is happening in the environment that surrounds them. There are important societal changes taking place. Our students are the digital natives, who communicate electronically and who mainly access digitally-mediated information. The greatest challenge that universities face is the upgrade of traditional learning environments and traditional learning experiences to better match the expectations held by digital natives, who have already been born in an interconnected world. On the other hand, the university needs to cope with the costs of this change, because academia was traditionally isolated" (Q36:21:59).

The types of courses offered, their frequency and delivery mode serve as a statement of purpose, representing the university's identity: its stated goals (the bases on which legitimacy as education providers is mobilised); its forms of authorities (establishing the coexistence of collegial and hierarchical basis of exchange between members of the organisation); its core technology (as encoded in infrastructure and skills of academics); and its marketing strategy (the type of student to which the HEI orients its offer and the ways in which it attracts resources).

"Let me tell you something important. We are universities whose foundational matrix is traditionally linked to campus-based instruction. We have a vast campus; we depend on our geographical location and on neighbouring agents. The essence of what happens here is also linked to all of us walking these floors and stepping into these rooms. That foundational matrix inhabits all of us, academic staff, it is reflected in our organisational culture, it is our working framework and I am afraid that any sudden changes may cause

dangerous disruptions. I do not think that a sudden change is good at all, because what happens now is part of our genetic material. Similarly, I find it unlikely that the Open University will ever become a campus-based institution. It would be a radically anti-naturalistic move. This university will not deny its foundational matrix that is loyal to local interests” (Q11:5:7).

However HEIs should balance their foundational matrix with an attitude of openness to the world and to the knowledge exchanges that are characteristic of distributed learning environments:

“This will naturally require changes in the current operation of universities and in teaching and learning strategies. The contribution of e-learning is that it operates as catalyst of socio-cognitive mediation. E-learning implies opening up and sharing processes, making them more flexible and transparent, and understanding teaching and learning as a social, collaborative endeavour. I truly believe that this is the new dimension universities need to embrace though developing e-learning. E-learning is a vehicle to sustained transformation and sustained development. Any university who remains exclusively attached to campus-based operation will decay and agonise. It will eventually cease activity or be extremely limited in its scope of action and in the effective capacity to generate impact” (Q11:6:7).

4.1.2.2 Outdated management-held core values

This barrier conveys academics’ perception that the evolution of e-learning from an innovative idea into coherent, collective action across HEI is largely dependent on the political will and skills of the centres of power governing universities. Formal leadership is

referred to as a process of legitimation whereby e-learning could be introduced to academics. However, outdated management-held core values prove a major obstacle, particularly when e-learning is not championed by HEI top management. They reflect a lack of top-level endorsement to e-learning, which determines that it will be difficult to achieve collective action focused on e-learning as an innovation, despite individual efforts in bringing it to the attention of senior management.

“I think that those who are new to technology and most of the digital migrants initially despise and fear e-learning. This is the attitude of the most honourable and distinguished academics, who are reputable researchers, but completely ignore or ridicule e-learning. When this attitude prevails, e-learning does not take off” (Q29:10:14).

What is at stake here is a leadership barrier that hinders the process of agreeing internally on mission-appropriate formulations of the value of e-learning, and of e-learning performance standards. Several academics, for example, criticise the hefty investment in software licenses for learning management systems, when more innovative educational technologies – particularly the ones supported by the social web – are now available:

“What I cannot stand is that most of the e-learning systems or e-learning technologies that finally being appropriated are introduced as the latest available development. We all know this type of technological solution has been around for many years. Most of the e-learning systems that are now being implemented are outdated, square, old-fashioned and useless. Blackboard and a couple of other learning management systems are fine examples of this paradox” (Q1:40:51).

On several instances, informants have also expressed their disagreement and frustration at the type of learning experience afforded learning management systems:

“I think that e-learning platforms do not fit the idea of innovation in education. They create the most restrictive, limited learning experiences that I am aware of. They over-regulate the learning process. That is exactly their keystone. They are constructed around the idea that everything should be controlled and regulated in the learning process, whereas I disagree and claim that educational processes need to be open and free from regulatory constraints. I usually juxtapose the contrived learning environments afforded by commercial platforms to my experiences of using SuperCard, a high-level development environment that runs on Macintosh computers, and with which I could programme amazing contents that could be used by instructors and very easily manipulated or improved by students. Contents were not closed because the programming language and environment were open” (Q11:51:95).

Centres of power are perceived to be determinant by informants: if e-learning is not represented or endorsed in the centres of real power (particularly at the levels of budgetary decision, strategic ownership, and alignment of policy to ensure that appropriate resources are brought to bear for the purpose of change), it will remain ad hoc and confined to niches of enthusiasts.

“If universities were corporate organisations, employees would have to conform to any type of decision, otherwise they would be sacked. But in public Higher Education Institutions it is virtually impossible to impose anything. The exercise of power is mostly symbolic and no one is truly forced to do anything. If an academic refuses to teach online and to adopt e-learning, no one can force him or her to do so” (Q30:26:46).

Evidence from interviews advance possible reasons for the persistence of conservative values across centres of power. This can be due to the fact that the value proposition of e-

learning conflicts with the knowledge held by HEI managers or with the strategy they envision for the HEI they govern. Managing authorities of HEI are groups of stable composition, usually aggregates of senior and respectable academics, who believe they possess a monopoly of knowledge of their field. This in turn leads them to rejecting new ideas from outsiders to the likely detriment of their own performance, even if their peers' perception is that HEI's management is chaotic and unable to drive consistent guidance:

“The management of HEIs is chaotic, there is no unifying vision or a sense of strategic direction. What worries me is self-censorship because people are afraid to point out what is going wrong, because they do not want to upset their superiors. There is no courage and until things do not change at top level, e-learning will not cease to be an individual choice, pretty much like a lifestyle option” (Q34:32:54).

In particular, across interviews it was common for academics to denounce managing authorities' divergent visions of the organisation's future. Rigid beliefs associated to the idea that the institution's reputation is solidly grounded in campus-based teaching or even in a culture of proximity or parochial management are powerful inhibitors to considering e-learning adoption.

“This institution was recently evaluated by an external entity and at some point the evaluators asked us what was our brand. There was no answer and this tells a lot about the absence of strategy and about our parochialism. Educational technologies could be our brand, they could help us define and state our mission, and use that as a competitive differentiator. But that would require a process of reflection and agreement between faculties and that dialogue simply does not take place. There is still a long way to go, and this is as an issue of organizational philosophy as much as it is an issue of marketing and strategic positioning of HEIs” (Q45:41:56).

Therefore, uncommitted management does not see the necessity to change. Conversely, it reinforces a conservative stance and possibly the desire to retain a positive self-image in the sense that the adoption of e-learning would disrupt past actions and decisions that are considered adequate.

4.1.2.3 Cost-cutting driven policy

Cost-cutting driven policies mean that the decision to invest in the infra-structure for e-learning is significantly dependent on calculations relating to the potential return on investment rather than on the recognition of its potential contribution to improved learning.

“There is a growing pressure to implement e-learning and to design learning objects, which I attribute to the widespread cost-cutting drive. The idea that e-learning can moderate instruction costs in Higher Education is one of the strongest arguments being advanced and I could not disagree more with it. If our approach to e-learning is economicist and disregards anything that is not economic, then I think that the costs and damages to students’ learning and to the quality of instruction can be insurmountable” (Q41:13:38).

While the rhetoric of e-learning in HEI is built around learning and strategic agendas, it is worth noting that some academics have suggested that the development of e-learning in traditional universities seems to translate an attempt to re-engineer business processes for best value.

“E-learning is the future of Higher Education Institutions. Just imagine the managerial effects across the board and the economic impact of a more agile administration of technologically-mediated instruction. It will reduce the necessity to pay rents, eliminate the expenses of cleaning facilities, and staffing needs will also decrease considerably” (Q42:23:48)

E-learning strategies are said to represent not only a renewed appreciation of the educational process, but also a desire and an intention to centralise resources to reduce expenses.

“The deterioration of the global economic outlook will determine the success of e-learning solutions. The number of students enrolling in formal Higher Education is decreasing, institutions compete globally and there is an obvious need to align instructional offer to learners’ needs. We need to make access to education more flexible” (Q19:23:36).

One of the key objectives is that of cost-effectiveness, which implies the establishment of a consumer culture. The objective of education is commoditised and training must not only add developmental value to students. The issue now is that the value added must be beneficial for the student paying the education bill and reduce costs on the provider side.

“The grand objective is a profound transformation affecting the provision of Higher Education. This grand objective is already hinted by the Trust Contracts imposed by the government and which are a step further in dismantling public universities, which will become insular institutions, no longer relying exclusively on public funding. The idea is that universities become de-regulated service providers; they will provide ready to consume knowledge packages, which take the form of learning objects delivered electronically. The core business of universities as service providers will be granting degrees and increase the number of graduates. Simultaneously, this serves two purposes: the political purpose of cutting public spending and the economist purpose of replacing it by students’ tuition fees” (Q5:15:11).

This drive for cost-effectiveness is often where academics perceive e-learning to play a major role, notwithstanding substantial criticism.

“It may be very risky to develop e-learning in Higher Education if the strategy is purely economically-driven. I do hope than in three years’ time, when universities are expected to report the application of additional funding obtained from the government to develop e-learning, the results will be very positive in terms of pedagogical gains, improved scholarship of teaching and a less biased take on educational research” (Q42.29.57).

For the management of HEI it may seem more cost-effective to provide students with the tools and technology to continue the learning process in their social environments. The impact of introducing technology is then an attempt to bring down the costs of delivering education in traditional face-to-face contexts. E-learning offers the ability to serve large numbers at one time and over time, with low additional cost. This means increased flexibility in delivery and the pace and distribution of learning. Additionally, it enables learning to be offered easily to those beyond the traditional boundaries of HEI, enabling the continued marketability of individuals through lifelong learning.

“One of the fundamental advantages of e-learning is possibility to attract and recruit students who would not traditionally be our market base. These can now be young professionals who pursue professional development and who could not attend the traditional course provision because of time constraints. E-learning is a facilitator in this regard, it eliminates barriers and makes the access to education more flexible” (Q4:10:3)

What academics criticise is that the driver for adoption should be impact rather than the search for economic efficiencies, especially because e-learning implies a shift of responsibility for learning to the individual. Consequently, the impact of e-learning is

dependent on how technology is adopted and used, and on how well it supports the objectives, strategies and values of learning.

“The critical problem for universities is financial survival. That is the most immediate problem all institutions need to tackle. E-learning is seen as a life-jacket, in extremely harsh times, particularly when universities are struggling to pay academic staff salaries. (...) E-learning is welcome as a solution to moderate instruction delivery costs. However, this subverts completely the pedagogical purpose of e-learning. I refuse to embark on this solution, because I hold a different view on the usefulness of e-learning. (...)Furthermore, e-learning should be a complement to on-campus teaching to enrich the pedagogical process, not a replacement” (Q26:30:55).

Precisely the issues of instructional design and pedagogy are the ones that create more tensions between cost and quality. The exploitation of the technical dimension per se, because it affords flexibility of delivery and cost signals the idea that the learners experience is not at the forefront of implementation.

“To a certain extent, it is an illusion to claim that universities will ever be able to survive without financial incentives. We indeed have to accept some of the measures proposed by the government because it is unrealistic to assert that universities can operate without economic sustainability concerns. Universities do need to generate revenues. They need to be active and dynamic in the market. Yet they do not need to be profitable, just as it would be atrocious if the National Health Service was profitable. I refuse the overshadowing of educational policy by economicist policy. We are completely trapped in a financial narrative. It is overwhelming” (Q41:42:73).

Instead of encouraging a sophisticated learning culture in which technological capability is used to support learning material design, interactivity and collaboration, e-learning is being advanced and sometimes forced-down on academics as an attempt to re-engineer the learning function for best value and cost-reduction.

“I suspect that sooner or later, the new administration will be trying to advance the idea of homeschooling or implement school vouchers. In reality, I know that a very powerful publishing group in the country is focusing a lot of attention and resources in the development of a virtual school. A lot of people I know are already employed there. This is all part of an attempt to undermine public education and to dismantle state-owned education providers. Another trend is the replacement of Chancellors and school deans – who have traditionally been academics – by managers and professional administrators. The masterplan seems to be decredibilising public education and inviting students to migrate to online, privately-owned learning services providers. (...) We are being driven by pure market rationality” (Q1:9:11:12).

4.1.2.4 Governmental patronage

Governmental patronage refers to the implementation of governmental funding and regulatory frameworks across HEI, based essentially on market mechanisms and on new managerialist principles. On the one hand, the underlying reasoning of these mechanisms and principles is that the public higher education system has become too large and too complex for the state to fund it on its own. On the other hand, state regulation of activities in HEI has not decreased. Instead, academics claim that the state is creating the conditions for a quasi-market, tailored to achieve governmental goals.

“There are clear governmental attempts to instigate the take-up of e-learning by traditional universities. At least the Ministry tries very

hard to stimulate the development of e-learning courses, offering financial incentives to universities who commit to expand the scope of their offer online. However, I think that this is a weak sign. The promise of additional funding is not an expressive incentive and it may actually mean that the government is disinvesting in Higher Education. Our government is extremely worried about the number of public, state-funded universities. There is clearly excessive offer and no way to deny we indeed have too many universities and not enough money to fund them adequately” (Q5:13:10).

The lack of funding from the public purse determines that universities have to adapt to the need to seek alternative sources of funding from business, industry or the civil society. Accordingly, market competition within and between HEI is advocated as the best possible solution to create effective and efficient HEI, whose activities should be monitored, measured, compared and appraised as any other activity of a private sector organisation.

“Most of Portuguese universities are not autonomous and they depend almost entirely in centrally designated governmental funding. Needless to say these resources are very tight and insufficient. This is all a vicious circle but universities enjoy a devolved autonomy regime in administrative matters. Figures show a worrying reality. (...) The good international universities do not have to raise more than 50% of their total budget. Expecting that a university is able to self-raise 70% or 80% of its budget is unrealistic and an unrivalled reality elsewhere in the world. Portuguese universities are beyond the limits of sustainability; we are actually nearing collapse. Nevertheless the governmental pressure is mounting. (...) To make it all more difficult, small and medium sized companies, which represent the country’s truly entrepreneurial class, are not sensitised to the importance of developing strategic partnerships with universities. Our politicians wish this was the case,

but the Portuguese context is substantially different and the existent funding framework is asphyxiating our operation” (Q24:15:44).

If in the past universities remained relatively stable institutions where research and teaching were driven by the advancement of knowledge rather than the world of application, the present years have witnessed a change in paradigm with growing pressures to link academic practice to the immediate economic and social development needs of states. Academics are apprehensive about this change:

“There is a resurgent school of thought that advocates that universities should be managed just like companies are managed. I find this idea most dangerous and disquieting. This week I had the chance to meet some entrepreneurs in a science and technology incubator. They were asking me why universities can’t simply be reconverted into companies. My answer to this provocative question was sharp and direct. For a moment I made them imagine that universities would in fact become companies. Would this imply directly that their core business was granting and awarding degrees? At what cost would this take place? I think they understood my concern and disagreement. There are obvious limits and restrictions. Universities cannot operate like companies. Students cannot pay to get their degree. The University is not the pub” (Q47:27:60).

The government, in particular, has become a facilitator of this transition, urging universities to become innovative and competitive. In practice, this means enforcing a high skills agenda whereby scientific, technological and economically productive knowledge created by universities is to be fed into higher value-added products and services.

“The government is pushing a new agenda for Higher Education Institutions’ funding. A paradigmatic example is the enabling legislation for universities to function as self-governing foundations. Universities’ acceptance of this regime implies that they are willing

to autonomously make up for 50% of their annual budget. Until now, only three universities are able to comply with this criterion. The decision to change the statutory provisions of Higher Education Institutions' funding is eminently political, because the government wants to find alternative funding opportunities and reduce the allocation of funds from the state budget. The political ambition is that universities develop partnerships with the business sector and with the local communities within which they operate and interact. There is this idea that universities should increasingly search revenues from research and consultancy services, but also from the instruction they provide through tuition fees for postgraduate studies: masters, doctoral studies, professional specialisation studies" (Q40:6:19).

Informants recognise that what universities do is now closely specified by the government, who measures, assesses, and rewards or penalises performance. The basis for performance judgment is no longer the public service ethos or the professional values of academics, which were replaced by auditable accountability systems supported by formal contracts that determine funding.

" (...) the government is now signing additional funding contracts with universities that commit to increase the number of degrees awarded, mainly maximising the potential of e-learning delivery. The government named this agreement a "Trust Contract" with the Higher Education Sector. All together the government will make available 100 million Euros. This is very clearly an instrument of political persuasion and financial pressure to force universities into taking e-learning up and to convert into using technology that wasn't mainstreamed in Higher Education" (Q40:6:19).

Additionally, HEI's missions are adjusted and shaped by new forms of regulation and quality control, with impact on how institutions are organised and staffed. The issue of staffing is of particular concern among academics, for the resulting implication in labour relations.

“(…) In the past we used to have an enormous workforce capacity and that is gradually disappearing. We also live an internal organisational crisis, we lack a defining model with which we are all able to agree. This is not a local crisis, it is a global crisis. The origin of this crisis is financial, because when state's funds are exhausted, the solution is to cut public spending. Universities are amongst the first victims and the staffing of universities is severely affected with less recruitment and with changes in career structures. (...) E-learning is being so encouraged because there is the expectation that it will lower the costs of education provision, that it will solve all problems and satisfy all raining needs. What we witness is the rise of a managerialist model overtaking and determining options and decisions that inherently of pedagogical nature” (Q11:17:19).

This generates a growing conflict of values and the widespread perception that HEI are being forced into new roles which contradict the deeply held belief in academic freedom.

“Universities' autonomy is something positive and it should be preserved. I say this because I want to be politically correct because my most sincere opinion is that the so called autonomy needs to be reinstated, restored and proclaimed more vigorously. My perception and my experience as an academic tell me that there is no trace of autonomy. Universities have become completely trapped by the political system. The main source of subjugation is of course the existent funding framework, which forces universities to avoid challenging or upsetting the Minister of Higher Education, who decides the allocation of funds. But I also question the existence of academic freedom and autonomy. There is not real independent

scientific or scholarship policy because the management of Higher Education Institutions is too connected to partisanship and to national politics in general” (Q21:38:61:62).

Several informants hold strong opinions against what has been introduced as modernisation of the public sector, which in reality means a reconfiguration of the roles, policies and structures of governance to transform the Higher Education sector.

“Any imposed policy or change upon the Higher Education sector will face a strong backlash. People will not understand the proposed change because the effort to explain any modernisation impetus is generally absent. So there is a communication failure and a deficit of understanding. Institutionally there may be the illusion that changes are accepted and that agents will conform to new standards. Those are cosmetic changes because in practical terms, the regular operation remains the same. In the beginning there is even the threat of punishment to those who do not comply, that there will be inspectors coming to the field. However, nothing really comes into force, and I am knowledgeable about what happens” (Q11:63:127).

The government is somehow steering HEI at a distance, since management is based on contracts and on the formalisation of evaluation and accountability systems. Concurrently, the horizontal transformation of HEI’s administrative structures is taking place through the political expectation that organisational autonomy and management devolution deliver a new collective efficiency, in light of the challenges posed by the higher education market.

“Portuguese universities enjoy scientific and pedagogical autonomy. These values are paramount to academics, they take pride in it. However, this is a false sense of autonomy because universities are financially strangled and dependent on governmental spending. (...) What strikes me the most is that in Portugal, educational policies are

excessively reliant on the views held by the political parties or coalitions that form the government. Partisanship and partisan interests overshadow the design of a coherent educational policy. Politicians are self-obsessed and wish to make an impact, without proper consideration of the context, without a strategy, without an assessment of existent resources or concerns about sustainability beyond the minimisation of public spending” (Q30:33:61:62:63).

Taken together, the two convergent approaches result in budget cuts, in reorienting teaching and research activities towards economic sustainability, and in a shift from collegiality to corporate-driven forms of management that transform academics’ identities, cultures and modus operandi.

“The government’s vision does not translate into a clear strategy. I would dare to say that it seems that a coherent vision for the Higher Education sector is actually missing. A long term vision at least is clearly absent. This lack of vision is evident to the average citizen. A symptom of this inconsistency is the cyclical transformation of governmental agencies that operate in this field. Every four or five years – which is also every time a new administration goes into office – there are changes. A recent example of this uncertainty is the closure of the Science and Technology Network, an entity with whom we have been working for some years. They even discontinued their servers, which we were using. This affects us directly and indirectly. There is a sense of inconsistency that is becoming systemic and endemic, which allied to a lack of coherent strategies, is a source of mistrust” (Q14:43:70).

In the specific domain of e-learning, academics criticize the ‘blue sky thinking’ of the governmental ambitions. Despite being largely unsupported by strategy or policy for developing teaching and learning in areas that have a historical focus on scholarship and research in discipline areas, governmental agents do envision a future in which teaching and

learning are transformed by e-learning, universities become new sorts of learning environments, and curriculum objectives change in response to technological infusion.

The reality is somehow different. Academics resist direct interference and claim the prerogatives afforded by the principles of autonomy, devolution and subsidiarity. They perceive this to prevent the emergence of governmental policy initiatives that link together the development of pedagogy and technology with the aim of promoting e-learning on the terrain of disciplinary specialists.

“Making the use of e-learning in Higher Education Institutions compulsory would be considered interference. I believe nevertheless that most academics would welcome the dissemination of pockets of excellence and the sharing of successful e-learning methodologies. The government is not the competent entity to develop educational policy. On the other hand, universities are. The government should encourage universities to produce guidelines. Similarly, it should encourage academics to share good practice. This would enhance quality” (Q39:28:102:103:104).

There is nevertheless a consensual understanding that the political rhetoric or narrative privileges ICT skills as a positional good for national and economic competitiveness and graduate employability, which has led to an approach to ICT in terms of learning about computer technology and through computer technology in HEI.

“I actually agree that an e-learning policy specifically designed for Higher Education Institutions should exist. I know from sources that I cannot name that such a policy is currently being prepared. One year ago Portuguese universities were visited by an international commission mandated by the Ministry of Education to assess e-learning’s state of the art. This commission produced a report containing recommendations and suggesting changes in the legal framework and in the organisation of institutions to better accommodate e-learning. I think that the existence of legal

instruments and responsive regulations signals that the government is intervening and active in developing and agenda for e-learning in Higher Education. It's not only about setting the rules for the game, it's about communicating the idea that e-learning is priority goal in the Higher Education sector" (Q36:39:57).

The governmental policies that deliver a national vision develop policy in an emergent way, but seem to conform to the idea that technology alone triggers or determines change.

"Letting the adoption of e-learning depend on the academics' willingness without ensuring any accountability instruments will never work and will create an undesirable anarchical situation. E-learning begs for the establishment of a global strategy, which undoubtedly needs the intervention of the Ministry of Higher Education to ensure the validity of certifications and the homologation of courses" (Q32:50:80).

Academics acknowledge the efforts of the Ministry of Education and Science in guaranteeing infrastructure in the broadest sense, from developing networks and access to the internet, developing user identities and federated access across all university campuses, developing virtual campuses, equipping universities with high end web conferencing facilities, or equipping students and teachers with subsidised laptops.

"In my opinion, a fundamental step in the mainstreaming of e-learning is the provision of equal starting opportunities at technical level for all institutions and all courses. All institutions should enjoy the same level of technical facilities and technological resources and specialised contents" (Q40:23:68).

All the aforementioned governmental initiatives are positioned at the technical end of a spectrum that is not technical in its entirety. But there have also been initiatives that further the agenda for increasing access to e-learning through producing and improving access to

primary resources, and through encouraging HEI to contribute new digital information resources for learning and teaching.

“If we look back at previous governmental initiatives we indeed see an effort to improve the technological infrastructure. There was a program to equip students with laptops, university campus are connected and use a single network with federated access, there is access to an online library aggregating content from the major journal publishers, there are videoconferencing facilities and multimedia studios. The Higher Education sector is equipped with technical capability, so that is no longer an obstacle to increase the provision of online instruction” (Q50:27:32).

The government has created managed environments for accessing quality assured information resources on the Internet which are available from many sources. These environments are a platform aggregating bibliographic and research data sets (scholarly journals, monographs, textbooks, abstracts, manuscripts, etc) and an open access multi-institutional repository for educational content. Although the data in both environments has been primarily used for research purposes, it is expected that academics begin to use it in learning and teaching.

“The government has sponsored the creation of digital content repositories for educational materials created by students and academics. To me this is a good example of regulatory intervention, because it validates and established a clear definition for contents that hold pedagogical relevance. At the same time it is a strong push that helps convincing academics about the importance of producing and sharing good quality educational materials” (Q18:9:23)

More recently, the government has mandated the OECD to appraise the actual state of tertiary education provision and, in particular, university level distance education in

Portugal, particularly the issues of spread of e-learning, attitudes, funding and pedagogical models.

Some informants are aware of the critical tone of the resulting report, which concludes e-learning is not contributing its share to the national higher education system up to its potential.

“Some time ago the OECD produced a report, a review of national policies for tertiary education in Portugal, and it was very critical of the teaching and learning experience that takes place in our institutions. They say it is excessively focused on knowledge transmission and ignores interaction, critical questioning and experimentation. And there is a very clear recommendation for embracing flexible modes of delivery, particularly those mediated by educational technologies” (Q36:8:21).

An important policy output of this realisation was the formulation a development programme denominated Trust Contract (Contrato de Confianca), which contains a chapter dedicated to the enhancement of online learning provision. HEIs individually signed agreements with the government, committing to increase the number of online graduates across undergraduate and postgraduate levels, professional development courses and lifelong learning initiatives, in exchange for additional funding.

“Universities need to realise that there is a potential for gains in developing e-learning. With the Trust Contracts the Government is enticing universities with the much needed prospect of obtaining increased funding, should certain conditions be met. An important condition is to increase the availability and student enrolment in e-learning based courses” (Q3:15:28).

The incentive exists, it is positive, but there is the suspicion that this can be an artificial instrument to boost statistics and official reports on the number of graduates. There is also

an underlying danger in equating the availability of more flexible forms of instruction to granted educational success.

“The Trust Contract negotiated by institutions with the Government reflects the prevalent thought among policy makers that the electronic mode of delivery will increase the number of students benefiting from Higher Education, which may not exactly correspond to reality. The achievement of this objective is entirely dependent on how e-learning platforms are dimensioned and managed. The intention is good, yet it cannot be interpreted as a direct intervention. The Trust Contracts operate as a financial inducement, but we can also view them as a financial punishment. If we are careful enough to analyse the terms of those contract and to project the variables of offer and demand, we soon conclude that the multiplication of courses’ availability online is not proportional to an equivalent increase or strengthening of our students’ knowledge base” (Q16:23:92).

Nevertheless the enforcement of trust contracts will force HEIs and academics to overcome the inexcusable delay in embedding educational technologies in their operation, and persuade academics of the need to change their teaching practice:

“The Trust Contract, as the term implies, came into force to provide academics with increased cognitive comfort. Before the discussion of Trust Contracts, the word “e-learning” remained unpronounced. Now it has permeated the official addresses of the Chancellor and it is defined as a key instructional practice. The concept has become trendy, it is extremely fashionable and academics are more receptive to implementing e-learning. Several weeks ago the Minister of Higher Education convened with a group of Chancellors and the need

to reinforce the take-up of e-learning across universities was once again officially stressed” (Q42:27:55).

However, many informants ignored the commitment of their own institutions with any specific training or mode of delivery goals. They seemed unaware of the practical implications of such commitments in their teaching load, yet worried about the consequences. Some were very critical of the disjointedness of strategy and operational levels, since there had been no collective discussion or communication of objectives from top management down to academics.

“The problem is that training is missing and so are specialised services to support academics in the preparation of learning objects. They simply don’t know how to execute things online. Universities need specialised human resources who are able to help academics overcome this learning curve. And then, for the delivery of online learning is it really enough to count on one academic? Is it not the case that they may need tutors to answer students’ queries. It all depends on how things are planned at institutional level” (Q8:20:38).

This failure seems to communicate the idea that the problem with transforming practice is that transformation is out of reach for many academics. It is perceived to be conceptually removed from the everyday classroom realities of forming relationships with students, organising learning and teaching, or managing commitment and engagement.

“I believe that the availability of legislation and regulations can help change practice and increase the use of e-learning in Higher Education. However, this normative dimension can be taken as restrictive or over prescriptive. It needs to be flexible enough to accommodate customisation, to fit to local contexts, and to ensure the adaptability of instructional contents according to discipline. The existence of broad, flexible legislation would be very helpful if educational technologies were not to be understood as mere

instruments. Instead they should be recognised as an educational paradigm. They help translate the virtual change paradigm. Technology is not important in itself, it is evolutionary and the new educational concepts afforded by e-learning illustrate this reality” (Q18:24:50).

Consequently, in order not to be perceived as something extraneous, the introduction of e-learning should be made explicit in national and institutional policy – with the expression of a vision and a statement of clear goals - yet respecting academics’ autonomy.

“I defend academics’ pedagogical autonomy. However, a stronger governmental intervention would be desirable to draw a vision for the institutional adoption of e-learning and to establish objective performance goals. I know that it is common for academics to complain against the normative intervention of the government. They perceive it as a constraint to innovation and to the emergent of locally significant methodologies. However, the existence of a collective ambition and of clearly defined objectives is not restrictive. It should work as an encouragement and as an instrument of accountability. If the government establishes goals for students’ mobility – I believe that the goal at European level is 20% - why shouldn’t e-learning penetration in Higher Education be driven by a similar ambition, quantified, measurable and objectified in the definition of a concrete figure” (Q49:30:59)?

4.1.2.5 Market-driven adoption

Competitive market environment refers to the realisation that within contemporary Higher-Education policy, the logic of the technology-driven global economy seems to play a powerful role, aligning the function of HEIs as providers of the human capital required to

ensure economic competitiveness. Flexibility in the provision of education means that more students can attend HEIs.

“One of the greatest advantages of e-learning is the ability to attract students who are no longer constrained by personal or professional difficulties to enrol in Higher Education. There is no longer the problem of overlapping schedules or compulsory on-campus attendance. The flexibility afforded by e-learning eliminates these barriers, which used to be very significant in the recent past” (Q4:10:6).

The pervasiveness of the market rationality and the macro-economic shaping of technology and higher education are increasingly felt by academics, which are compelled to provide the labour market with cohorts of technology-savvy graduates.

“The demand for e-learning-based instruction is on the rise. We answer many students’ queries who specifically ask about the existence of e-learning courses. We are taking good note of this demand and reflecting it on the design of our courses because we want to match our offer to learners’ aspirations. Learners want flexibility, so e-learning is a valuable response, which allows us to reach new audiences. The possibility to extend the reach of Higher Education to new audiences plays in favour of e-learning” (Q14:45:77).

In an apparent double-bind function, market pressures seem to simultaneously operate as the beholder of renewed opportunities for the Higher Education sector and as a barrier to positive perceptions of e-learning.

“I will not deny that e-learning is relevant to Higher Education. However, I am against the prevailing economicist model, or the easy way out of the challenges presented by educational technology. E-

learning can also invite us to remain enclosed in the same transmissive paradigm and that would be a mistake. What I see is that we are adopting e-learning, yet enduring in outdated pedagogical models that do not live up to the promise a high skills agenda. We will end up with an e-learning offer that is completely divorced from what students need” (Q44:20:30).

Various characteristics have been highlighted by informants as evidence of profound socio-economic shifts that affect the function of the university in relationship to society and the markets. These characteristics are usually summarised under the umbrella concept of knowledge economy, which academics perceive to be a compound of speed and acceleration of knowledge into all spheres of life: expansion of high-technology industries, move into a service-based economy, development of new information technologies, sophistication of production processes, and rise in strategic importance of the use and transfer of knowledge for economic transactions.

“From a business perspective, the introduction of e-learning will allow the administration to allocate the more technology literate academics and those who are more suited to teach online to an emerging market share: the lifelong learners, those who do not necessarily need a traditional degree but who are looking to satisfy specific professional or training needs. Universities can provide this qualification online, ensuring and formally accrediting its quality. And this would place the university high in a market traditionally dominated by commercial and industrial agencies. It would potentially generate very interesting revenues” (Q4:26:30).

Universities, who have traditionally been the monopolists of knowledge and innovation, now face the pressure to extract economic and competitive benefit from knowledge production, to produce exploitable knowledge and to facilitate its diffusion so as to generate socio-economic goals.

“E-learning is vital for universities because universities are struggling to capture students. I say this, but I do not see universities as profit seeking entities. However, I am the first person to admit that a university with no students is devoid of mandate and it does not fulfil its mission of producing and disseminating knowledge” (Q36:30:8).

Such pressures, informants argue, contribute to a particular form of Higher Education provision and pedagogy. In particular, a premium is being placed on the pedagogical function of universities as producers of the educated workforce that the knowledge economy requires.

“Students who work part-time or mature students who have children and a family will naturally tend to prefer online learning. They prefer learning tasks which are spread across a longer period of time, because this gives them the opportunity to manage their time and concentrate on work when they are more available or more motivated to do so. The only exception to this are of course the synchronous sessions” (Q36:10:15).

In Portugal, which for many decades enjoyed a traditional elite system of higher education, access to university education is no longer seen as a privilege for few, but rather as a right for the many.

Having undergone mass expansion until the late 90’s, Portuguese universities are being asked to open their doors to as wide student population as possible, taking in many students from non-traditional backgrounds and responding more closely to market needs. Recently, and because of a decrease in applicants, particularly in HEI outside Lisbon and Porto, this has become a necessity.

“The report produced by an external expert commission conducting a quality assessment at our university has impacted greatly in the Chancellor’s perception of e-learning and of the need to innovate

pedagogical practice at large. The commission explicitly recommended that efforts should be made to increase the offer of online instruction, to avoid losing students and to remain competitive in the global market. If not, we risk becoming a provincial or regional university, with very limited expression. E-learning is the way out of that downward hill, because it would allow the university to expand its scope of action, attracting students from different contexts, even from Portuguese speaking countries” (Q30:21:39:40).

As the need to be competitive, cost-effective and to respond to the market pressures is imprinted on HEI, this has had the effect of commercialising universities’ flexible delivery of teaching and increasing the offer of online and blended learning modules. In a context of constraints on governmental funding, HEI have turned to see themselves as competitive organisations. Consequently, they have turned increasingly to alternative sources of funding, expanding their teaching offer to new market segments and to the demands of new student population.

“Every source of change in any sector of activity in this country is determined by some sense of economic emergency. The implementation of e-learning in higher Education is not an exception. In face of decreasing governmental funding universities are forced to seek alternative sources and become self-sufficient. Economic self-sufficiency means in practical terms that universities need to attract students and make instructional offer more flexible, preferably making courses available beyond traditional working hours. It is unrealistic then that academics come to campus to work after 6pm. All courses will then desirably migrate to a blended delivery system, to ensure teachers and learners are no constrained by co-location requirements. Universities will be competing for the same market share and e-learning will be a safe move. Actually I think it is the best solution available and the most viable too to

ensure academics will get their salaries and will not be made redundant because of a decrease in the student population” (Q19:20:31).

Students from different countries such as Brazil or Angola now attend their courses. Employees work and study simultaneously and also globally. The interactivity and ubiquity of the Internet creates this convergence, which replaces the previous delimited nature of meeting places and the geographical isolation of traditional universities. University level education has become a real marketplace.

“There are good expansion opportunities for our traditional student base. These opportunities are afforded by e-learning. There is clearly an e-learning market. For example, we are running a degree in Information Systems in Timor entirely online. The same course will begin next September in Brazil. Our instructional offer is naturally targeted at Portuguese speaking countries. I am afraid we are not able to compete with online instruction in English, because there are established competitors. So the competitive edge of Portuguese universities is this differentiation factor: we can produce and disseminate knowledge and content in the Portuguese language” (Q24:40:207).

Additionally, there is an increasing demand for education in a lifelong learning context. New learning needs arise in areas such as professional training, general skills building for employability, vocational training and personal development. E-learning has been employed across several HEI to respond to these new demands.

“In the current economic crisis, universities need to be aggressive in securing their market share and simultaneously they need to be proactive and reach out for new audiences. This reason alone justifies that many universities adjust or transform their traditional

offer, creating more and more courses for blended or entirely online delivery. (...)In our country, approximately 6 million persons have only completed basic education. The training and educational development of this vast mass will take 15 or 20 years and it certainly needs the active participation of Higher Education Institutions. The operation of these institutions needs to be realigned to serve emergent societal demands and to train new cohorts of learners, who in the past wouldn't be the traditional 'clientele' of Higher Education" (Q40:7:21).

Furthermore, the development of corporate-university partnerships around online learning is opening up new roles for academic institutions to play.

"An emergent area of activity has been the organisation of executive training courses for CEOs, where they are able to learn and apply management and decision making principles from practical cases. We are also collaborating with the Air Force Academy to train their students with an air traffic controller simulator and a Second Life environment where students enact the assembly and disassembly of F16 fighters' engine components. In parallel with these projects, we have established a partnership with Portugal Telecom Innovation, being now responsible for the development of a Second Life-based corporate learning environment" (Q28:4:5:6).

However, the downsides of a convergent educational market anchored in the growth of e-learning are highlighted by displeased academics.

"There is clearly an emergent market to absorb the online educational contents created by universities. However, I do not think that universities should direct their intelligence and their efforts into the mass scale production of salable instructional content. Universities should take care of knowledge refreshment; they should

renovate their research capabilities and aspire to lead by scientific scholarship. Only scientific leadership can guarantee a high quality service in the provision of teaching at graduate and postgraduate education” (Q50:19:20).

They claim that what universities teach and how they do it is changing in response to pressures from economic interests and from the new mass of potential consumers of Higher Education.

“Strictly speaking about this university, I know that an agreement has been signed with the Ministry of Higher Education to increase the number of online course attendants in exchange for additional funding. Universities are confronted with an absolute need to attract students as the only viable financing source. E-learning offers a sustained opportunity for growth and the administration has finally realised that. E-learning is now the life-jacket everyone wants to grab. That is also why I think the Director approached me, because he knows about my experience with e-learning” (Q29:19:34).

They fear for the expansion of non-educationally focused values and the prioritising of commercial return over academic standards. They perceive that threat in the permeability of HEI’s research and teaching rationale with market jargon.

“I sense that universities are increasingly interested in e-learning because the perception that it may generate important revenues is sticking. This shows how economic factors determine decision making about adoption. When universities realise to a fuller extent that e-learning students pay as much fees as campus-based students and that flexible online delivery is on the rise, then e-learning will be defined as an institutional priority. The university is almost exclusively focused on ways to generate money. If you present a project to the administration, their main concern about execution is

financial and they are blind to potential impact or indirect value. The first thing they'll tell you is that there is no budget. Complaining about the lack of money had become all too frequent" (Q42:28:56).

Many classical disciplines of science and in particular the Humanities have had to reinvent themselves in more market friendly forms in order to survive, as students grow more market-oriented and flock to courses which offer a gateway to employment in more dynamic sectors of the economy.

"I am aware that several Humanities degrees are struggling with decreasing student enrolment. They are truly fighting for survival because if there is no student demand, tuition fees revenues are nonexistent, which causes a worrying vicious cycle. Ultimately, these departments will lack the funds to pay their academics salaries and will need to make them redundant. (...) Perhaps the way out of this problem is to relocate instruction into online flexible delivery and try to attract students from Portuguese speaking countries such as Angola or Brazil, because our universities' academic reputation is recognised in those countries. That market remains relatively underexplored" (Q22:7:11:12).

Finally, there are concerns about the commercial actors who position themselves for gains in the Higher Education ICT market. E-learning is usually predicated upon wider strategies of making the most of HEI as instruments of economic growth and social inclusivity, but it is important not to lose sight of how private sectors shape the use of technology in universities and of how much they benefit from designing, producing and licensing the highly structured virtual learning environments through which some courses are administered and presented.

"I do not want to sound too critical or excessively pessimistic about the future, but I do think that we are to expect the emergence of very aggressive actors that will occupy the space left by public

education providers. It wouldn't surprise me if several publishers came forth as providers of virtual higher education, with the government sponsoring this type of solutions by means of schooling vouchers" (Q1:8:18).

4.1.3 Structural-organisational assurance: Operational level

In terms of structural and organisational barriers impeding academics' 'Trust to Change' and therefore to make sense of e-learning at operational level, interviews revealed that academics will try to avoid ideas and insights that might appear harmful to them, particularly if this implies a significant shift in their professional identities. The inability to fully understand the affordances of e-learning – in many cases attributed to bureaucracy and disjoint internal communication patterns- seems to influence academics' eagerness to avoid being associated with e-learning as a risky innovation. Many opt for the safety of institutionalised practices and avoid the dangers of being cut off from valued organisational rewards.

4.1.3.1 Bureaucratic overload and internal fragmentation

Bureaucratic and internal fragmentation refers to the passing or deterioration of the collegial manner of working to which academics were accustomed. Collegiality was typically characterised as consensual decision-making, cooperation and shared values, whereas academics growingly experience its opposite, reporting an increasing tendency for HEI to adopt formal workload allocation, diversifying and intensifying demands, stratification between different grades and locations of academic staff, and consequent erosion of aspects of professional autonomy.

"The best word that describes my present experience of universities is chaos. Daily operation and the organisation of routines are completely off the track. I think we are still able to find a direction

for our collective action, we debate the mission of Higher Education, but my perception is that the living experience is disorderly. There is an enormous chaos threatening the management of day-to-day teaching and research operation. Time is very poorly managed because the demands coming from multiple fronts are never ceasing. We respond to an endless calendar. Always, always, always” (Q34:28:31).

Bureaucratisation of academic practice is also related to the widespread acceptance that any academic’s work is now split between teaching, research and, increasingly, administration. A major source of unease is that beyond academics’ efforts in attempting to establish the synergies and other necessary relations between teaching and research, academics are now forced to deal with institutional responsibilities. Performance in the latter is also growingly measurable.

“I consider that two of the most disheartening trends affecting academics is the growing disengagement of students and the overwhelming administrative tasks that are very time consuming before and after teaching. Preparing instructional contents and making them usable in a dynamic way is already time consuming. I would certainly be a better teacher if I didn’t have to deal with reporting every activity and with loads of paperwork. It’s an unfair workload that steals my time away from more important activities” (Q6:19:35).

Academics attribute this drive towards bureaucratisation to the twin pressures of reduced funding and increased competition. Combined, they dismantle the view of a fairly standard academic role, leading to fragmentation. The understanding of an academic as someone who did some teaching and some research or scholarship, at all times adequately supported by administrators and secretarial staff, has been rendered obsolete.

“E-learning has increased our workload, because now we are expected to do many of the administrative tasks secretaries would do in the past. It is extraordinarily time-consuming to release grades. A considerable share of paperwork and bureaucratic tasks is now understood as academics’ sphere of competence” (Q32:9:13).

Academics fear that the academic profession is fragmenting and that their political standing as autonomous agents is threatened, to a great extent because of HEI’s failure to recognise the implications of a changed relationship between the state and the Higher Education sector.

“What is perverse is that we cannot say that there is a direct, forceful intervention form the government as main funding institution. However, the availability of financial incentives is what ultimately provides a sense of direction. It determines the objectives and strategic pathways. In this sense HEIs are followers more than setters of a strategic agenda for the sector” (Q44:40:57).

Portuguese universities are currently undergoing a period of upheaval and change as they respond to decreasing student rates, declining public funding and increased government pressures to reform governing structures, lower costs and achieve greater administrative efficiency. At the structural level, this means that executive decision making has supplemented existing hierarchies and supplanted collegial forms of governance.

“I actually believe that the recent changes in the administrative structure of HEIs eliminated committees where academics could contribute on an equal footing. Some of these committees have been replaced by advisory boards that externalise consultation, but in practice decision-making remains centralised in the Rector and their team” (Q49:30:23).

In operational terms, it means the infusion of HEI with corporate reforms, market behaviour and business-related principles that academics regard as inappropriate to the primary goals of teaching, learning and scholarship.

In a climate of reduced government HEI have been pushed and pulled in the direction of competing in a quasi-market arena for more students and for alternative sources of operating funds. Alongside with continual requirements for greater efficiency in savings, institutional funding was significantly reduced and made increasingly competitive and performance driven. Not only funds are allocated on the capacity to attract students, research results also have a considerable impact on departmental survival or development. Furthermore, the progress and continuation of individual academic careers is heavily dependent on the scholarship of research.

“We need a Teaching Career Act that is responsive to the portfolio of competences necessary and actionable by an academy today. Concurrently, performance appraisal needs to be comprehensive and touch on several domains of the professional repertory such as scientific research, management and administration and engagement with the community. However we know from our experience that because the definition of evaluation grids is a prerogative of individual institutions, the traditionally established criteria will prevail, neglecting the bureaucratic overload experienced by academics and the quality of their teaching performance “(Q51:19:39).

What academics regret is that in a more market-driven university, collegiate decision making is declining and educational and scholarly goals are being challenged by a new set of corporate and financial goals, enforced by a new managerialism. In particular, governing councils such as academic boards have been reformed: they are now more akin to corporate boards, yet they are less representative in form, reformulating education objectives into strategic planning statements. Business-speak is argued to dominate, and the concern of HEI became focused on findings ways to produce knowledge as a marketable, saleable commodity to differentiated segments of the student population.

“E-learning adoption is only seen in terms of gains. The gains will certainly induce financial efficiency and sustainability because the physical structure will be less expressive. We can eliminate costs traditionally associated with buildings and teaching spaces. There are also benefits introduced by greater student autonomy. The number of on-campus sessions will decrease, but will need to be complemented by remote tutorials” (Q47:11:18).

At the same time, centralised quality assurance mechanisms, staff appraisal, and workload allocation systems typical of corporate contexts have become widespread. This kind of bureaucratisation is put in place under the argument of increased transparency of academics’ work. In particular, new bureaucratic elements of accountability, assessment, evaluation and control are amongst the most widely criticised by academics, particularly for being completely unresponsive to the reality introduced by e-learning:

The workload allocation framework in place determines minimum and maximum teaching hours, but there is no direct equivalence to what this represents online. That is a discretionary decision of each university. Maybe this should be regulated at national level, although in all reality I think that an immediate consequence would be the realisation that most departments are understaffed. My department operates in illegal terms, with all of the teaching staff teaching for longer than legally determined (Q44:43:63).

The new model of governance brought about an increased workload at all levels. Responsibilities expanded, administrative tasks became more complex and challenging. Academics themselves spend more time on developing and complying with procedures and rules, as well as on data collection and transfer for institutional reporting purposes.

“Of course I feel my workload is heavier. But having an increased workload does not mean that my pedagogical practice is

automatically enhanced. (...) E-learning platforms can indeed make your workload multiply. Your commitments multiply, yet not much of that increase is visible to others around you. I know what I am talking about because I am the module coordinator and I know what I suffer to get everything running smoothly, from verifying that academics upload summaries of weekly modules to writing reports for every course” (Q34:17:28).

Simultaneously, academics complain about the need to move into system management, whereas administrators are growingly shaping policy and procedural frames for academics work.

“The administrative demands are so extenuating that our relational and social identities as academics are obliterated. We no longer have time to be social and that is important in academic. The demands of work are overwhelming. There are no organising principles able to tackle the widespread sense of chaos. Do you know how many meetings I have to attend in a day? I cannot be omnipresent; I cannot multiply my capabilities as if by magic. I serve as coordinator of my pedagogical group; I need to take part in the Research Strategic Board meetings. Furthermore, my presence is requested in management meetings, at the Scientific Committee, at the Directors’ Board. I truly believe that a new organising principle is necessary” (Q34:30:32).

This tide of managerialism is reportedly constraining creativity, inducing anxiety and debilitating the working environment to such an alarming degree that it is not uncommon for academics to pursue defensive attitudes and personal agendas, at the cost of collegial objectives for the university. Consequently, academics highlight the human cost of pervasive managerial practices, which they perceive as alienating, affecting morale and productivity, and reducing communication and cooperation.

4.1.3.2 Measurable goals and performance feedback⁵

Measurable goals and performance feedback is a barrier that describes the alleged absence of systematic management and assessment procedures to ensure achievement of quality outputs in the provision of e-learning.

“It may seem like a contradiction but the pedagogical competence of academics is only considered or appraised after they have spent several years of their career teaching and the criteria will remain relatively stable and unchanged with the new performance appraisal regulations” (Q42:32:62).

According to the information disclosed by informants, there is no systematic review process of an institution’s e-learning offer to determine if acceptable standards of scholarship and infrastructure are being maintained and enhanced.

“The Ministry could pass stricter regulations prescribing for example a compulsory scrutiny and evaluation of academics’ pedagogical practice. I mean pedagogical practice in a comprehensive way because it encapsulates how courses are delivered, e-learning intervention or the quality of instructional resources produced. The existent procedures across Higher Education Institutions are uninformed and they depend exclusively in a single assessment moment, which filters out candidates who are deemed academically competent in a public habilitation lecture – appraised by a nominated jury – and when academics are tenured. The new performance appraisal regulations are now being discussed by the universities’ governing bodies, which enjoy devolved authority to

⁵ The term is employed in the sense originally explored by Van de Ven and Polley (1992) in their articulation of the nexus between innovation goals, actions and outcomes when studying the process of learning during the development of a technological innovation by an inter-organisational joint venture.

decide which criteria should be included and how they are to be enforced every two years” (Q33:25:33).

It is difficult to find some form of internal self-regulated quality assurance procedures. Similarly, it is hard to find a comprehensive and practical quality assurance framework that systematically covers e-learning inputs, processes and outputs.

Academics argue that clarifying quality expectations would help to set a quality assurance implementation path and increase acceptability of e-learning. An informant in particular, claims that it is crucial to provide a clear picture of the overall e-learning quality requirements, expectations and process to gain the buy-in of academic staff.

“I think that an academics’ performance appraisal needs to be thorough, evidence-informed and comprehensive. My activities need to be revisited: which contents did I produce, what information have I shared with my students, how do I disseminate information and knowledge. I have no fear about opening up my records. Actually, I conduct yearly satisfaction surveys with surveys, in which I include specific parameters that evaluate my performance as a teacher, including the use of e-learning. I can actually tell you that when I had managerial responsibilities in my department, I tried to extend this accountability principle to my colleagues. All academics and all courses were evaluated by students. Unfortunately, this practice was overruled by the administration that replaced me. Personally, I think that accountability is important – also to show others the value of good practice” (Q37:29:114).

Another academic reinforces the idea that indeed practices of regulation would install a collective commitment to quality through which efficiency, best practice, scientific knowledge, expertise and professionalism in e-learning implementation could be accomplished. Naturally, she argues, these practices of regulation can only be taken for real if they can be measured through auditing HEI and individuals.

“Having a PhD is not a guarantee that you will make an excellent teacher or that you will be able to prepare an eloquent lecture. You may lack the ability to communicate concepts or to convey knowledge. Now I was used to a different organisational culture. From an early stage in my career my performance as a teacher was exposed to external criticism. That is the reason why I feel it is completely natural to show how my teaching practice develops, whether on campus or online. These checkpoints to control academics’ performance are absent in Portuguese Higher Education Institutions. Have you ever heard of any filter that distinguished a good teacher from a bad teacher in this system? I am not aware of any. There are no teaching observations. And students’ opinions are usually considered to be too fragile or ill-founded” (Q26:20:35).

In reality, it is not the case that academics are unfamiliar with audit systems in general. Discourses of efficiency and quality permeate HEI, regularising academic practice yet narrowly defining values in order to make them measurable.

For the majority of interviewees there is an excessive reliance on quality assurance as compliance with audit procedures that evaluate academics’ research output. The likely result is a compliant academic, one for whom the possibilities for critique and creative innovation in teaching or in establishing entrepreneurial links with the industry or the community are eminently discouraged.

“All my academic work, I mean, my entire teaching load, the sessions I need to prepare and deliver, the contents I need to work out for students... I wonder if my institution really cares because I am only accountable to the number of face-to-face sessions I deliver. An enormous amount of my work as a teacher is undetected by my institution. It is invisible to the administration yet it is a vital part of my function and it remains unappreciated and unaccounted for. All my innovation in teaching and my use of e-learning is also unnoticed

and it does not have a measurable impact on my professional advancement” (Q50:29:33).

Concurrently, the overwhelming perception is that teaching practice remains largely unscrutinised and that the regulatory dimensions rarely rise above the formalisms of defining teaching/contact times and tutoring times.

“The issue of pedagogical excellence, which should be a stimulus and a driver for quality is paradoxically absent from academics’ performance appraisal repertory grids. In fact they have no real or substantive impact in an academics’ career progression. Even from a reductionist perspective and considering the traditional praxis, based on direct instruction, the appraisal or consideration of pedagogical models, instruments or strategies is alien to the concerns of evaluation panels. Besides the pedagogical dimension, I would add that academics’ administrative and institutional responsibilities are also largely absent from evaluation instruments. For example, membership to an administrative body at the Faculty or to a Scientific or Pedagogical Coordination Committee is never accredited in a coherent, transparent way” (Q21:35:55).

Nevertheless, several informants recognise the governmental pressure placed upon HEI to intensify institutional efforts towards the formalisation of a European Higher Education Area, where modules, courses and curricula are harmonised and where the curriculum is laid out in a common and more precise manner by expressing module/course content in terms of learning outcomes. Known as the Bologna Process, this political initiative is driving academics into defining and detailing disciplinary learning outcomes, which provide a common language for curriculum design and evaluation.

“I believe that there is a close ideological proximity between e-learning and the Bologna Process. In practical terms, Bologna introduces a formal organisation and accreditation of students’ self-

regulated work that can take develop asynchronously, mediated though e-learning systems. I see it as perfect fit for some activities that I have been developing for a long time, for example the use of web-based discussion for a as an extension to the learning activities that take place in class. Unfortunately, I am aware that this example of practice is an exception. Many colleagues still have no idea what a learning outcome is, and are unable to formulate responsive learning designs” (Q3:6:43).

This interference is not without critique. Academics feel it is being forced down by university management without sufficient opportunities for reflection or appreciation of consequences. In particular they are apprehensive that the establishment of a system of credits to recognise and quantify learning achievement, and the adoption of three shorter cycles of higher education qualification may obliterate national contexts and reproduce the practices that fit the template of best practice as defined by political decree of HEI management.

“I usually compare the implementation of Bologna in Portugal to a dangerous quicksand. There were high expectations, particularly concerning internationalization but in reality the only positive aspect is the external mobility granted to our own students! In many cases it makes no sense to compress the cycles of qualification. Just look at what is currently happening with Law degrees and the Law Society refusing to validate shorter degrees. We would like to think that this politically-imposed interference in the very functioning of HEIs brought some sort of benefit – particularly a student-centred focus – but in the end we basically do things as before” (Q6:35:37).

However, with respect to e-learning, academics poignantly report the absence of any matrix of accreditation, evaluation and benchmarking structured around accountability, control and improvement.

“E-learning is not a core specification of the performance appraisal’s repertory grid, so that makes it extremely difficult if an academic wants to demonstrate how e-learning actually contributed to the curricular or pedagogical enhancement of a specific course. Similarly, the number of hours devoted to e-learning is not registered by the university as de facto working time. It is also very difficult that an evaluation panel will actually rate or score your effort in developing e-learning contents. From the moment this injustice is reversed, academics will feel that their efforts in developing e-learning are rewarded and that e-learning is recognised a core element of their praxis as academics” (Q49:22:38).

Quality measures still rely on inputs such as the qualification of academics (understood as the doctoral degree as sufficient qualification to teach in Higher Education) and on outputs such as student satisfaction ratings.

“I am extremely regretful about the rules defined for habilitation and for the demise of previous mechanisms that were in place to ensure candidate’s scientific and pedagogical competence. Those mechanisms operated as a filter, selecting those who proved able of becoming assistant professors. That mechanism is no longer in use. The golden rule for recruitments is being in possession of a PhD. The absence of any scrutiny of pedagogical competence creates a paradox. It is not uncommon to come across academics who spent most of their career teaching without ever being observed, without ever being pedagogically qualified to do so, or without any close scrutiny of evaluation of their teaching and assessment philosophies and methodologies” (Q12:42:50).

The implementation of peer review of teaching as a form of performance evaluation is welcome by some academics, mainly because it could also operate as a tool to build excellence in teaching. However, it would face significant resistance:

“I think that teaching observations would be an effective way to evaluate pedagogical competence. However, I know that many of my colleagues resist this solution. I actually think that it works better than student-led evaluation. Several models have been under discussion, including inviting students, non-academic staff, administrators and representatives of the civil society evaluating the performance of academics, based on very questionable success metrics. But this reflects an attempt to assimilate civil servants’ performance evaluation strategies into the academia, which would not work. It would actually corrupt and distort the educational system. Similarly, the establishment of quotas to limit performance appraisal is unwelcome and harmful to the trusting working relationships” (Q39:26:90).

Being more transparent about how teaching and learning develops would promote more quality, but it is difficult to harmonise accountability with a latent culture of secrecy:

“In Portugal, evaluations are conducted behind closed doors and under secrecy. I am not saying that we should expose bad teachers’ dirty laundry, but it is essential to understand inside lecture theatres and how do teachers interact with students online. It would enhance the quality of education provision, raise standards and foster a climate of accountability” (Q35:17:34).

The several limitations of the prevailing system cascade across all levels of promotion and do not scrutinise teaching practices in enough detail, as summarised by a senior academic:

“The evaluation mechanisms set in place are both permissive and complacent, exactly the opposite of what they should be. General institutional expectations for academics’ performance at different stages of the academic career should be clearly outlined. Also,

expectations and eligibility for the award of tenure are entirely based on candidates' qualification and examination of an application portfolio where teachers babble about how many conferences they attended and how many subjects they taught. Tenure should only occur after public review and evaluation of a teacher's learning, teaching and assessment strategy, sessions' plans and student satisfaction surveys to confirm the pedagogical soundness of the model proposed. I am always shocked at how negligent review committees stand to be, even when making decisions to promotion to mid-senior academic levels. Expectations for appointment and promotion of Associate Professors are equally ridiculous. In fact, it is enough to submit the proposed syllabus for the course, which anyone can copy from a book or from elsewhere. It's a bureaucratic process consisting only of the submission and analysis of supporting documentation" (Q12:44).

Consequently teacher evaluation instruments are unable to cover the fundamental integrity of the online learning environment, composed of aspects such as institutional commitment, curriculum and instructional development, academic staff support, student support, and learning outcomes assessment.

"The scholarship of teaching is the underdog of academic practice. The Teaching Career Act recognises the importance of pedagogy but the enforcement mechanisms are missing, and evaluation panels interpret the regulation arbitrarily. For the evaluation panel it is a lot easier to check how many articles an academic has published, instead of trying to interpret any available information or evidence to observe how good or bad a specific academics' teaching is, whether online or offline" (Q17:15:52).

Reversing this situation would provide academics with means for deciding what action to take, producing a set of imperatives that would help them to act as more informed self-managers:

“I welcome any change to current performance appraisal procedures, which I consider to be amoral and decredibilising for the academics’ profession. For a period of five years I was appointment to serve in an evaluation committee and universities simply refuse to comply with any recommendations. Evaluation results are not fed into any attempt to improve performance. Academics only do what they feel is right and most of the times submitting a self-evaluation report would suffice. If this is called evaluation, I would rather say that it is not worth conducting it” (Q29:15:26).

Since currently there is no danger of non-compliance or the possibility of conflicting with the institutions’ practices or policies, the possibility of adopting e-learning will be less considered. Furthermore, a lack of clarity surrounding e-learning adoption goals and the absence of criteria to measure them renders quality in provision difficult to operationalise.

“Pedagogy and teaching practice have not yet come under scrutiny in Higher Education. It is an established tradition that some associate with autonomy, but I think that it is absurd not to know what happens in face-to-face sessions or not being able to observe how teachers go about teaching in online environments. Peer observation could be an option, but it is not well regarded among my colleagues, who are not used to a culture of responsibility and accountability. They perceive themselves as authority” (Q8:15:27).

The vagueness and imprecision created when HEI fail to set their e-learning programs goals and to measure results against those goals, leads to academics meeting only their own needs and interests.

“If I open this door into the corridor and stop students to ask them who the good and the bad teachers are, they will surely be able to distinguish. The problem is that both the good and the bad professional move up on the career ladder. In the end what matters is how many papers and journal articles they are able to write. This message is internalised university-wide. This message is communicated by the administration. It is signalled to everyone and it exempts everyone from being too concerned about the quality of their teaching. It is like playing the same message all over: forget about your teaching, focus on producing science” (Q44:13:19).

4.2 Trust to Integrate

This subsection is concerned with identifying and explaining the variety of perceived barriers to ‘actional-personal confidence’ and ‘structural-organisational assurance’, which affect academics’ ‘Trust to Integrate’ e-learning.

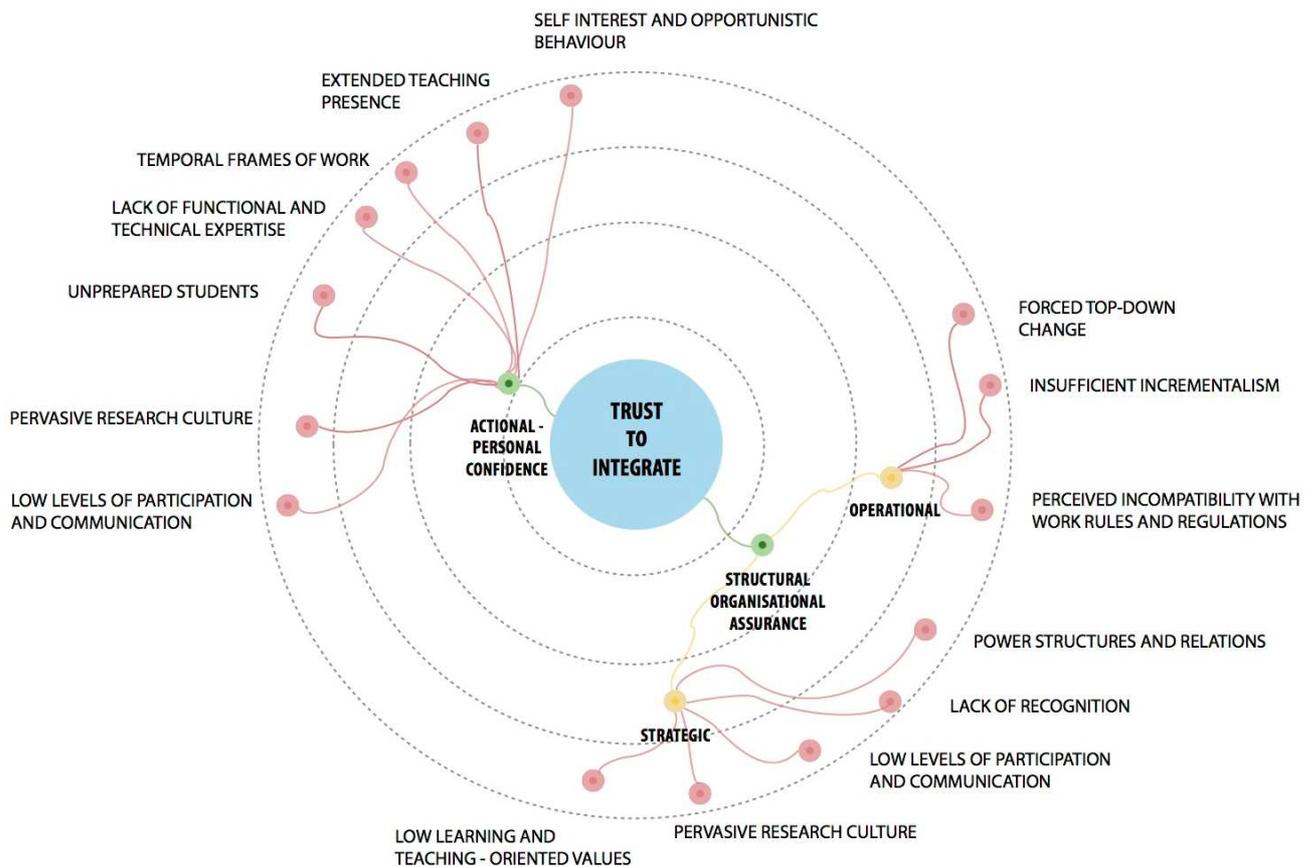


Figure 8 – Concept map depicting the trajectory from codes, through to categories (‘Actional-personal confidence’; ‘Structural-organisational assurance’), and finally to the near-core category ‘Trust to Integrate’.

Integrating takes place mostly at the organisational level, where a shared understanding among management and academics is achieved, allowing for coherent, collective action within HEIs. On a general level, and as shown by concept map on Figure 8, it is observable that the number of actional-personal barriers to integration is lower than the number of

structural-organisational barriers, with the prevalence of issues such as organisational reward, changing professional identities, and regulations concerning the execution of work.

4.2.1 Actional-personal confidence

The major actional-personal blocks of factors that contribute to preventing the integration of e-learning are based on personal feelings and skills of academics; prestige and intra-professional relations; perceived impact of e-learning on the goals, tasks and working conditions of academics; and pronounced ego defences. What follows is a detailed description of these barriers.

4.2.1.1 Lack of functional and technical expertise

Across interviews there was a generalised consensus that e-learning adoption requires the development of technological competences, particularly when academics are not computer savvy. For some academics e-learning can represent a steep technology learning curve, and this can itself be demoralising.

“Limited technological proficiency can cause resistance and fear of not being able to master e-learning systems. It also leads to an inability to acknowledge and recognise the benefits of e-learning, because its added value is not appreciated or well understood. This is a strong barrier” (Q3:8:15).

Low computational self-efficacy may produce strong negative emotional states and ultimately frustration, which altogether affect interaction with e-learning systems and perceived work productivity.

“Some of my colleagues are so terrified about technology that they fear the computer will explode if they push the wrong key. Despite this fear some of them are slowly getting to use computers in education. The university has also invested heavily into transfer administrative procedures and all internal communications into electronic formats. Yet the pockets of resistance emerge here and there. Many academics still prefer to have hardcopies and claim that they do not have the time to read through email accounts. But things are slowly changing; it is just that these processes take time within a very conservative environment” (Q25:28:42).

Teaching online may seem like a daunting task for academics without previous experience, but that should not be used as an excuse to deter them from experimenting or acquiring online delivery skills.

“Technology was always presented as the barrier and, quite personally, I have always considered that technology in itself could not be the only barrier. I still think it is not the only or the main barrier” (Q7:3:3).

Some of the core skills to become good online educators are actually transferrable from face-to-face contexts: subject matter expertise, course planning and management, student support and mentoring.

“Academics should also be aware that they don’t need to use the array of functionalities available, only the ones which use is justified and perfectly coherent with an instructional strategy. As a teacher I experiment all functionalities available to know in advance which ones I should focus on, so as to maximise their potential” (Q23:19:25).

Furthermore, computer skills and the knowledge to create, manage and deliver courses online can be developed if individuals persevere, and if training and guidance are available.

Guidance is fundamental in obtaining and strengthening academics' technical skills by addressing the core areas of instructional design and planning, course management software, social web literacy, and general troubleshooting.

In terms of instructional design, the main difficulties relate to the creation of a successful learning experience, which entail ensuring the subject matter is interesting, establishing interactivity, and promote creative and authentic activities:

“The transition of academics into different teaching roles with e-learning is difficult to achieve because of a lack of computer literacy. Many academics are unable to deal with educational technology and many of their difficulties are not exactly related to operational control issues, such as starting or quitting a given application. The real difficulty lies in knowing how to align the use of a specific educational technology with a pedagogical strategy and an instructional objective. This difficulty will take years to overcome and I think that some disciplines are naturally more ready for technology use. Creativity is the keyword” (Q40:2:8).

A major area of concern mentioned frequently is the use of learning management systems, which allow academics to manage most aspects of online teaching – course content delivery, communication, turning in assignments and receiving feedback, facilitating group work, assessment, and collaborative learning - using a single interface:

“Another factor that can contribute to enhance academics' level of trust and confidence in e-learning is the acquisition of computational skills, in particular specialist knowledge about how to use e-learning platforms. It takes experience and practice to realise how the platform can actually improve teaching and enhance results. Also, it is not viable to establish goals without understanding the real capabilities of a system. If I ignore the affordances of a system, how

can I operate it adequately and how can I extract maximum benefit from it? This is all linked. One must understand the affordances of a platform before becoming enlightened about how to design a quiz or create a discussion forum, etc". (Q49:18:32).

Another barrier to the mainstreaming of e-learning is the absence of a culture of informatics, and the prevalence of traditional teacher-centred models of education that fail to take advantage of the internet - particularly the advanced online communication technologies that allow learners and instructors to engage in collaborative learning experiences.

"In my opinion there is not an established culture of informatics in Higher Education Institutions. This is worrying but not exactly surprising if we come to think that there are still illiterate individuals in this country. And I do not mean functional illiterates. It will take years to overcome this qualitative gap that places us behind other European countries. We simply failed to fail the evolution of informatics as it expanded elsewhere. If you visit a school and ask how many of the teachers there regularly use a computer, the figures will be alarmingly low. Our human resources are neither skilled nor empowered" (Q47:40:89).

Overcoming competence-based resistance then requires an attitude of flexibility and openness. Experienced academics realise that there are features and functionalities that can be worked out and improved over time, as modules develop and as technology evolves:

"When academics finally realise that they do not advanced levels of technical competence to effectively an e-learning platform, they will be more easily manageable and easy to persuade. E-learning platforms feature easy to use and intuitive interfaces. Uploading contents into them and managing resources is a lot simpler than it was some years ago. The evolution of technology has made the use

of e-learning platforms easy, transparent and comfortable and this impacts highly on how the system's usability and friendliness is framed by academics. If e-learning platforms are perceived to facilitate teaching and administration in an efficient and manageable way, they will more confidently migrate to digital environments" (Q14:17:27).

4.2.1.2 Extended teaching presence

The perception that e-learning overcomes the predominant conventional transmissive pedagogy in Higher Education and that this is not without costs to instructors was quite common across interviews. Many of the informants acknowledged the need to tailor the teaching and learning settings online to adequately accommodate the flows of content and interaction, and to regulate students' behaviour against multi-perspectival data:

"I'll tell you how it works in practice. We are busy day and night, all the time, even during weekends. Working rhythms and patterns are intensified are very distinct to traditional teaching. In campus-based teaching I can afford the luxury of not preparing a lecture in much detail beforehand. With e-learning every teaching activity needs to be anticipated, prepared, scripted and preferably rehearsed. The planning and execution efforts are incomparably higher. However I do not dispute that is the role of the academic: to anticipate materials, resources, ideal contents and appropriate pedagogical strategies. E-learning requires an acute awareness to operational control and performance. Even in the simpler aspects" (Q3:35:70).

The range of difficulties that academics reportedly face more frequently relate to dealing with the negotiation of activities that best meet students' learning needs, dealing with the flow of content questions and answers from students - which can easily become

overwhelming - and improving closeness and cognitive learning through mechanisms of instructor immediacy:

“Technology-enhanced teaching and learning imprints different routines to the teacher-student relationship, because there is greater proximity and regular feedback. Virtual presence is a de facto addition to physical presence, which makes academics’ workload excessive. Nevertheless I make an effort to ensure that I include technology in my teaching designs, because my objective is to generate integrative understandings” (Q22:3:5).

Such time-consuming tasks somehow contradict the rhetorical idea that e-learning can actually set academics and learners free of temporal constraints. Several academics referred that, as a result of the introduction of e-learning, a whole new set of responsibilities emerges. These responsibilities pertain no longer exclusively to students’ skills acquisition and construction of knowledge but also to moderating students’ activities:

“One particularly difficult task is encouraging students to participate actively in the discussion fora. It is not always a straight forward task. It requires availability and monitoring posts, which becomes difficult when the group of students is very large. Following up on students’ contributions to ascertain relevance or manifestation of understanding is an increased workload” (Q10:5:2).

On the other hand, the scattering of activity introduced by e-learning intensifies the need for co-presence. Therefore, more than acting as a major inhibitor to the adoption of educational technologies because of a perceived lack of time and increased teaching, temporal constraints are related to requirements of design, development and delivery of online, and to the cost-effectiveness of ensuring the connected and continuous availability of academics to students’ requests:

“When compared to traditional campus-based teaching, it becomes apparent that e-learning generates new teaching tasks, new teaching moments that seem continuing, in sharp contrast with the defined cycles of preparing lectures, delivering lectures and making students sit a classic exam. E-learning demands more effort and commitment from both teachers and students. I am a living witness of the increased workload for teachers. From the students’ side, I have clear evidence of the same intensification pattern. Whenever I use educational technologies in a blended learning approach, my effort increases but whenever I ask my students openly about which delivery method they prefer, they invariably prefer blended learning because they quickly realise it is more profitable in terms of the richness of learning experiences afforded. They perceive e-learning creates more opportunities for personal development, despite the increased workload” (Q36:9:14).

Naturally, academics cannot be permanently available. However, the pressuring demands to promote online learning effectiveness push them into an array of very demanding activities such as: increasing the intelligibility of materials by designing easily navigable contents; offering guidelines on how to use resources; being emphatic about turn-around times for response; establishing expectations of tutor feed-back and availability patterns; being explicit about participation rules in asynchronous discussions, etc.

“I need to mention something really important. It is related to universities being unable to realise or to acknowledge that developing e-learning implies significant additional effort from academics. The management of universities fails to understand that technology enhanced teaching is not equal to teaching being made easier or simpler. The opposite is true though, because teachers see themselves trapped in continuous streams of demanding tasks. I had to make this point clear to prevent the completely false idea that

often circulates about academics having more free time or being less professionally engaged when they teach online” (Q24:8:17).

Another important issue is that the process related to adjusting to the online environment is bidirectional and valid both for students and instructors, despite students’ over expectations concerning the affordances of e-learning and the availability of instructors:

“They live permanently online and expect the instructor to be the same: always available. They are shocked when confronted with the fact that such permanent presence online is not possible. Also, they tend to postpone their activities to weekends or for the night period and only realise that instructors are not remotely present when they don’t find them online” (Q:9:18).

The most critical factor raised is, however, the set of academics’ technical and educational expertise, which implies the ability to set collaborative learning agendas; moderate conferencing behaviour; provide leadership and guidance to individual learning needs; and organise delivery in such a way that learning objectives are aligned with methods, assessment and expected outcomes. These new dimensions of the scholarly activity go well beyond traditional disciplinary knowledge and require a substantial investment of time, as indicated by a lecturer:

“I have to be intellectually honest with you: it took me a huge personal time investment to feed contents into e-learning platforms. Contents are the core problem of e-learning. I cannot re-use them in the following year because they are not static and reality is changing. Updating is extremely time-consuming. For the first three years I spent most of the time, including weekends, answering queries, mentoring and monitoring students” (Q:1:10).

The importance of communicative and interactional alertness was acknowledged to be critical for distributed learning solutions and pertains to the seamless enmeshment of

learners and instructors, in such a way that there is minimum disruption to mutual relationships, discussion and development of shared understandings.

“Naturally, I do believe that teachers are more present and more exposed with e-learning. This presence is not physical; it is virtually extended to address several demands. Whenever my students need to ask me something urgently, the platform is their first resort. If I fail to answer their queries, they will quickly find an alternative method and try to track me down on a chat or start inboxing my email account. It is a virtual presence but it means an intensification of contact and an extended presence. It means availability and students feel secure to know someone is there to help at any time” (Q14:11:15).

One of the keys to successful time-aware linkages is the ability to ensure continuous relevant presence of both instructor and learners. In the absence of physical situatedness, academics have to adopt strategies to minimise possible feelings of uncertainty and suspicion, and to filter the noise created by activities that are not relevant for knowledge sharing, by ensuring enhanced visibility with regulatory and motivational functions:

“The amount of work involved in creating an e-learning course is large and it can be very lengthy, timely process. Monitoring students work online is an additional workload that did not exist before, so rules and regulations are blind to the e-learning phenomenon. In reality, when approached rigorously, e-learning is more demanding than campus-based teaching and that is the reason to why many of my colleagues run as fast as they can far away from it” (Q29:12:17).

This enhanced visibility is enacted by the capacity to establish rapport, to explore the social functions of the learners’ community, but also by the frequency of personal tutorials, the effective balance between academic and pastoral support and by regular monitoring of students’ progress by means of directive posting or interlocutive and content-related

interaction. In summary, academics need to find the time to nurture trusting and empowering relationships, through proactively engaging students in discussion, critical thinking and in the requirements for pedagogical success and attainment:

“Something I have always stressed in academics’ professional development courses is the importance of discussion fora, sharing contents and making assignments and resources visible for everyone. This pedagogically open stance implies collaborative approaches to teaching and learning” (Q:3:22).

However, many times the response of academics is reactive and insufficient, mostly because the demands of their roles are such that being simultaneously on top of teaching, research or tutoring activities becomes a difficult task. Online instructors feel, more often than not, inundated by queries:

“For discussion forums I would define a weekly topic and stimulate students’ discussion. Many have asked me how this would impact assessment and grading: it wouldn’t fail them if they didn’t participate but I would grade them and this participation was undoubtedly important for those borderline students. Forums were weekly and about topics such as scenarios on interest rates, inflation rates, etc. Participation was so high I ended up collecting records of more than 60.000 students’ entries. It is a colossal task for a single teacher and today I am much more selective” (Q:1:8).

4.2.1.3 Temporal frames of work

In the course of the data collection interviews, informants expressed the belief that e-learning introduces a reshuffling of temporal dimensions: duration (amount of time dedicated to design learning activities and educational contents); location (activities and

tasks take place over extended continuums of time, dilating temporal frames of fixed particular points); sequence (concurrent detachment of activities from temporal restraints and reification of uncontrolled restraints resulting from being tied up to activities spanning across unspecified points of time); and cycle (reappraisal of work completion periodic regularity and transition to cycles of limited rhythmic alternation, with prevalence of being intensively busy).

“E-learning changes the temporal dimension; it imposes a new temporal regime and imprints new rhythms to the teaching practice. Any engagement with virtual environments is extremely absorbing and time-consuming. Just like the relationship we keep with social networks. It’s terrible to belong to Facebook because you actually perceive how much time it takes from your other commitments. The same happens with online learning environments. A lot of new commitments are forced on us. But I am convinced that this is essentially a time management issue. How much time can I actually dedicate to it? What I know is that for me and for my students virtual learning environments are extremely time-consuming. It forces us to work well beyond normal working hours. It’s a timeless time. That’s it, learning online is without time, which is both fascinating and scary” (Q11:43:79).

Time emerges as a deep driver of system behaviour, manifested at different rates of linearity, continuity, synchronization and entrainment, and this diversity impacts academics’ consequential temporal behaviour within the system.

“Time is a voracious agent when we teach online. All the time I devote to the e-learning platform is absorbed. If I create a discussion forum and if I want to be consistent in my extraction of the pedagogical and instructional benefits of the tool, I need to dedicate a huge amount of time to making it dynamic and to invite students’ participation. Similarly, if I want my Moodle page to be kept tidy and

up to date, I will need to revisit it daily. Also because there is always something to be done: a comment to add, a discussion to prompt, a series of assignments to collect, a summary to be made, or a question to be answered. And I can just go on and on. I regularly need to modify, select and upload handouts, slides, scientific articles, pointers to external resources, data sheets, etc. The demands are so varied and so intense with online teaching that I feel I am being swallowed by work. It would indeed happen had I not been careful enough to establish feasible and reasonable goals and expectations” (Q49:12:20).

Academics readily acknowledge the practical challenges of simultaneously developing and maintaining critical aspects of time in e-learning. Because of time concerns and time constraints, many academics are making a restricted use of e-learning systems:

“For self-protection reasons I can say that I have only used 10 to 20% of e-learning’s full potential. I could have done a lot more, but the management denied my sabbatical leave, which I had programmed to dedicate entirely to the redesign of my course. I intended to transform it into an e-learning course but I needed time to reflect, align objectives with functionalities and experiment with many of the platform’s new features that I am not familiar with. Unfortunately, this possibility has been denied to me. Without time there is no mental availability, there is no awareness. It takes time to elaborate a strategy. I even bought some books about teaching and learning and I ended up not having the time to read them” (Q10:14:104).

Emergent temporal trajectories of academics indicate unregulated and unaccounted for dynamics, mainly deriving from changes in the approach to teaching, resulting in difficulties to synchronise their temporal behaviour with other actors with whom they interact; and time-related consequences cascading across the system, such as disruptions to internal

workload patterns and conflicts with dominant modes of delivery, reinforced by entrenched organisational practices or deeper institutional processes.

“The academic who migrates a campus-based course into integral online delivery will be the protagonist of a radical time experiment. Their schedule will be nightly, and concentrated on the period of after work hours because that is when students will prefer or be available to access the e-learning platform. This means that the teacher is stuck from 10pm to 2am. And this is unaccounted work time, which will not be rewarded or compensated for. The university could not care less. This time is not taken into consideration for payment purposes, the same happening with the time spent mediating students’ interaction or developing instructional contents” (Q19:10:14).

Academics are confronted with the need to speedily accomplish educational tasks and to adapt and reconfigure the teaching and learning process to changing delivery conditions by coping with existent career and performance expectancies, which reward research over teaching and overvalue a metric approach to hours of teaching.

“I may admit that in a long term perspective e-learning can generate time savings, but in the short term it is the opposite that happens. E-learning implementation is extremely time-consuming. In my personal context I felt that it would not be possible to harmonise e-learning development with the full range of my professional duties, such as research, administration and being the programme coordinator for a master degree. I can hardly breathe between the short breaks that separate the competing professional demands and obligations. I cannot do more than I do and the only professional help that I am able to get for my online teaching is someone setting up my course on Moodle, which is very insufficient” (Q34:1:2).

There are also pressures to rapidly adjust to new working methodologies that defy traditional temporal expectations by the overcoming of communicative barriers and the production of interaction amongst the members of the e-learning community of enquiry:

“There is an extension of our teaching activities with e-learning. For example, in campus based teaching, regulations establish fixed time slots for tutorial sessions, which students can book individually with their teachers. There is a weekly limit for the total duration of these sessions. They cannot exceed half of the time an academic is allocated to teach a course. So if I teach for 6 hours in a week, my tutorials are limited to 3 hours. In an online environment these time frames don’t apply because the expectation of digital presence exceeds it greatly. I am available for my students even during weekends. It’s entirely my fault because I was not forceful enough to establish limits and preserve my interests. It is a complete illusion to think that there is any advantage in transferring face-to-face tutorials into online environments because time is not transposed in equal terms or fairly regulated by institutional norms. Online I am expected to be constantly available, chatting or answering emails, and fundamentally using personal time without compensation” (Q38:16:47).

This focus on speed and agility of structures, processes and linkages contributes to the centrality of time as an unavoidable force that shapes the teaching presence. An accelerated teaching presence sustains the new learning process through the design, facilitation and delivery of synchronous and asynchronous instructional responsibilities:

“Time management becomes a critical challenge if academics are not careful. Personally, I experienced several problems related to overloading my students with excessive tasks, which in the end I also need to monitor and assess. I think that a good rule for quality teaching is being able to provide timely feedback. If as a teacher I am

unable to give my students timely individual or collective feedback because there are too many tasks or too many assignments, I am clearly being misled by a product strategy. Instead I should be pursuing a quality contents strategy” (Q31:26:45).

4.2.1.4 Unprepared students

Learner readiness has been frequently mentioned as an obstacle and barrier that confronts learners and that needs to be properly addressed before HEIs proceed with e-learning programmes. In most instances, the cited examples of student unpreparedness refer to learners’ general attitude, self-management skills, and technological readiness. Also in most cases, students’ experience of technology enhanced learning environments is late, which involves a process of acculturation:

“Some of the weakest points of my adoption are related to my frustration about not being able to achieve everything I want or envision to do with e-learning, particularly the interactivity with students, the use and dynamics of fora, and the construction of e-portfolios. There is no strategy to convince students to use these tools more often. Most of them get to their 5th year of studies without having ever used the Moodle platform” (Q17:33:139).

Insufficient readiness is characterised by the inability to work independently, lack of self-motivation, underdeveloped reading and writing skills, a reactive (instead of a proactive) approach to learning, and a negative attitude about learning in general:

“Students have an instrumental view of education and of Higher Education Institutions in particular. They are mostly concerned about their grades and about their diploma. They don’t look at the degree as a personal and professional development process. For instance,

this year, in my course's online environment, I asked students to view a series of video clips. I could only get them to watch them if there was some element of assessment associated to viewing those clips. So I made them answer some questions about either clips or audio podcasts. I actually know of very few people who listen to podcasts or who uses podcasts in education. Nevertheless there are very interesting talks made available in podcasts. I remember using a podcast that was 30 minutes long. For my students, making them listen to those 30 minutes must have been an atrocious act of violence". (Q33:11:13)

If students are to benefit from the advantages of e-learning and to truly become self-directed, a system of support is required which integrates academic skills training and practical knowledge of online study strategies:

"The e-learning regime requires autonomous and responsible students that are self-driven and motivated. It is not quite the same as on-campus sessions, where students usually manage which sessions to attend or not, without significant risk of serious harm to learning. They need to be supported for this transition" (Q4:11:6).

When this strategic support is not in place students' chances for succeeding in online learning formats are perceived to be diminished. Across interviews with informants, unsuccess was often attributed to underdeveloped information literacy skills:

"Students are generally unprepared to deal with the degree of self-regulation imposed by e-learning. E-learning emphasises emerging autonomy and responsibility of students to take charge of their own learning. This implies mastery of meta-cognitive strategies that students are not made aware of before coming into Higher Education. They are extremely competent in mastering technology, as they are the so-called digital natives. However their capacity to

contextualise and see things in perspective is extremely poor. Most of them fail to distinguish between credible and unreliable information, which is a very basic exercise. Undoubtedly, this is a serious problem that needs to be addressed” (Q16:29:108).

Another significant problem reported by some informants refers to the nature of students’ technology proficiency, typically applied to online gaming and social networking contexts, where the cognitive demands are not the same as those of online learning environments. Communicating scholarly via electronic means implies respecting a specific code of conduct and the respect for intellectual property:

“The first contact students have with digital technology is mostly through playing. They use computers to play and they also play online. This element of enjoyment and playfulness is not so present in teachers’ first contact with digital technology, which is eminently associated with new work routines. My point is that the playfulness students are used to when engaging with digital environments needs to be re-educated. Some students acquired bad habits as individual users of online environments and I am thinking for example of piracy and illegal music downloads. The same spirit and the same disrespect for intellectual property can contaminate their perception of academic integrity and lead them into unethical misappropriation of contents and plagiarism. I am particularly scared about this widespread idea that getting something from the Internet is an easy solution. It starts with film and music and it rapidly contaminates assignments, essay and thesis writing. Also, it seems to me that academics are not sufficiently aware of this problem, of the pervasiveness of this copy and paste culture” (Q32:15:19).

Furthermore, without a diagnosis of learners’ skills – time management, self-directed learning ability, motivation to learn, personal learning style, technical ability, computer competency, and learning preferences – and without a scaffolding approach to acclimate

students to the demands of online learning environments, academics risk making incorrect assumptions about learners' capacities:

“For a period of two years I tried to implement a blended learning course without fixed content and based entirely on negotiating contexts for learning. It was admittedly a radical endeavour, but students failed to understand my proposal. They were clearly expecting fixed contents and missed a content-focused, structured approach. Some of them were frustrated because the whole idea of the course was to create a context around which students would work in collaborative projects. The creation of project-based learning contexts was meant to allow students' self-management of thinking and effort, promoting flexible approaches to problem-solving that are adaptive, strategic, and goal-oriented (Q46:9:9)”.

4.2.1.5 Self-interest and opportunistic behaviour

Academics' alleged self-interest and opportunistic behaviour refers to the opinion/ shared by several interviewees – that academics' decision to adopt e-learning is frequently framed in terms of a transaction cost analysis, resulting in a non-adopting behaviour that unconditionally seeks professional self-interest, the preservation of the status quo, and the strategic maintenance of a so-called comfort zone, and the advancement of their careers at the expenses of teaching quality:

“The issue of self-interest is related to the personality characteristics of each individual. Some individuals are naturally competitive and all they worry about is the speedily advancement of their careers. It's legitimate. But a very contrasting example is given by those who are passionately devoted to teaching and to contributing to students'

effective learning – completely at the costs of career advancement”
(Q4:27:32).

This prevalence of opportunistic behaviour denotes a certain lack of candour. It can manifest itself both in proactive or reactive terms, and it usually involves a breach to institutional expectations or even relational norms.

“The last years have witnessed the erosion of the character of those working in knowledge and cultural industries. It seems to me that people are growingly concerned with selfish matters. In education, in particular, teachers tend to prefer the arrangements that disturb them the least. The reflexion of this behaviour in teaching is that most academics really prefer not having to bother with dealing with students’ formative assessment or with regularly monitoring their progress. Why making such an effort when exam at the end of semester is a much more appealing alternative?” (Q2:17:26).

The main assumption is that the professional bureaucracy surrounding academics’ ethos and praxis openly invites them to dynamically maximise their personal utility or private interest.

It is easy to feed a module’s e-learning component on the basis of visiting the learning management system to simply upload content and then assess all your students with an end of semester multiple choice exam, possibly copied from a textbook. As long as this is the dominant prevailing logic, e-learning in Portuguese Higher Education Institutions will remain a farce. If it was this simple, then being an academic would be the easiest job on earth, because all it meant was reading out slides in lecture, uploading them into a platform, and then asking a teaching assistant to mark the exam. This kind of strategy will lead us nowhere (Q12:43:51).

In face of e-learning, pursuing the maximisation of utility and interest results very frequently in academics perceiving their share of reward to be inequitable or dissatisfying, with the exception of academic staff hired on a non-permanent basis.

“Tenured academics are not pressured to innovate or to incorporate e-learning in their teaching. In fact, to them it is already quite indifferent the pace at which they progress to the following rank. It does not really matter if it is in 12 or 16 years. The situation is different, however, for newly recruited staff, who experience a more precarious job situation and who will feel more pressured to adapt to the organisational demands and to what is prized” (Q21:23:24).

For the tenured and most senior staff in particular, restoration of a sense of equity happens through non-adoption or through adoption conditional on the existence of artificial incentives:

“Those academics who are more reluctant to adopt e-learning will always try to manipulate or mask the benefits the adoption with the appetite for artificial incentives. In their point of view the instrument at the service of transforming practice lies with the introduction of incentives such as direct impact in career progression, increased pay or time credits” (Q5:11:7).

However, in some cases not even the existence of incentives or a normative framework is able to guarantee the elimination or mitigation of myopic opportunism:

“The existence of incentives that operate at the level of career progression is the last resort for those academics that are so recalcitrant that nothing else will push them away from their comfort zone. It’s a very Portuguese thing, this bad habit of always finding a way to get by doing the least possible. So even the implementation of incentives will not be truly transformative and the

truly resistant will never benefit fully from e-learning because they stand on the way of their own professional development” (Q6:29:54).

Similarly, it was not infrequent to find e-learning adopters who felt uncomfortable in their role as innovators, for being perceived by their peers as potential threats to the establishment:

There are many situations in which a perceived threat to the status quo and what seems to be a preferable situation seem to deter academics from moving into e-learning. There are also situations in which people are simply trapped in inertia and think to themselves: “why would I bother to try and change things if I am so comfortable in my own position?”. And when I try to convince people to change I’m literally accused of being a pain (Q28:15:32).

4.2.2 Structural-organisational assurance: Strategic level

Strategic barriers to the integration of e-learning are associated with the lack of political skills and influence tactics of moral suasion, negotiation and ingratiation. They deal with the institutional capacity to convince academics of the value and relevance of e-learning through articulating a clear framework of costs and benefits, whilst redefining professional identities and inspiring collective action. What follows is a detailed description of these barriers.

4.2.2.1 Pervasive research culture

The prevailing experience reported by academics seems to be that the structure, culture and practices of HEIs implicitly and explicitly prioritise research over teaching. Considering

the time pressures and different demands confronting them, academics realise that in terms of professional standing and personal advancement it makes more a lot more sense to engage more deeply with research activities than worrying about excellence in teaching:

“It is undeniable that academics’ career is geared towards scientific output. All aspects related to the scholarship of scientific research are documented in institutional regulations. Recent attempts at reformulating performance appraisal rules tried to raise institutions awareness to the importance of teaching skills, but no effective qualifier or quantifier of performance came into force. References to pedagogical praxis are palliative. This means that manifest pedagogical excellence will go unnoticed and unprized. It is almost a sparkle of chance that a performance appraisal panel gives a high score to an academic whose strength is educating students, or even engaging the university with the surrounding community. Nevertheless, being a good researcher is synonym with being prized and being able to secure a stable, comfortable position in academia. This trend is not exclusively national. At international level the same phenomenon is also taking place, irrespectively of attempts to formalise the importance of academics’ teaching profile in institutional regulations. In reality you can get along with being an excellent researcher and a terrible teacher. The opposite is not possible though” (Q15:15:31).

Accordingly, academics’ performance expectancies are inherently focused on the scholarship of scientific discovery and on the scholarship of knowledge integration and transferability. On the other hand, teaching online is largely underappreciated, unrewarded and assumed by faculty as some sort of idealistic behaviour, since valuing the scholarship of teaching can compromise other activities that more visibly enhance their own career development.

“The current performance appraisal system does not do justice to the full range of academics’ professional repertory. I honestly feel that no one feels justly rewarded. The investment in developing e-learning makes an incipient contribution to academics’ professional advancement, not to say that the impact is near to zero. The perspective of professional progression is drawn from institutional rankings, which in turn are indexed to scientific output criteria. The scholarship of teaching is completely absent and neglected. An excellent teacher will never be adequately rewarded and excellent teaching will never suffice to guarantee an academic is promoted to Professorship. In this country that would be impossible. This means that excellent teachers are driven by personal satisfaction or concern about students’ personal and professional development. Professional reward for pedagogical praxis and achievement is my daily battle. I am hopeful that one day the performance appraisal system will have it amongst its evaluation criteria” (Q49:35:68).

HEIs typically have a strong research culture, with research enjoying higher prestige and offering a much clearer path to career advancement, whilst there is usually comparatively less recognition for quality and innovation in teaching.

“Writing papers is still what sets the standard, although what happens across disciplines is quite variable. I believe it is not as relevant for Engineering as it is for Social Sciences. Unfortunately it is still a dominating ideology that permeates decision panels when the opportunity for career progression arises. Having published articles in top journals immediately turns you into a sexy candidate, more likely to get the promotion. Unfortunately, performance appraisal panels tend to forget very important dimensions such as establishing partnerships with the industry to develop innovation and new products with commercial impact. Pedagogical innovation and e-learning in particular are also largely ignored. The effort many

academics put into developing interactive contents or in developing instruments that foster collaboration should be placed in a position of prominence and importance” (Q40:11:38).

The perceived value placed on research, very often at the expenses of quality in teaching provision, has historically undermined the status of teaching, and put great pressure on academics’ workload, as individuals work to increase research quality and output, whilst attempting to address the challenges of their teaching responsibilities.

“It is extremely difficult to convince academics to move away from their comfort zone, which is traditional teaching. It will take several generations to witness a consistent behavioural change from academics as a community. Decision about academic staff promotion is made contingent to scientific performance and the quality of teaching is always secondary. The number of papers published and the number of citations achieved are the most valued criteria for appointment at higher ranks. This clearly signals to academics that their priority professional development areas should not be teaching-oriented. Investing in better teaching and in acquiring sharper pedagogical skills does not pay off” (Q44:11:17).

This reality strengthens the belief among academics that HEIs prioritise research and that there is a general lack of recognition and reward for academics with a dominant teaching focus. Numerous occurrences across interviews outline how academics view the main basis for promotion and acknowledgement to be based on research activities such as publishing journal articles and securing competitive grants, which contrasts with the perceived lack of output tangibility associated with teaching activities.

“The promotion from Assistant to Associate Professor and From Associate to Full Professor is entirely dependent on the candidate’s research output, on the number or articles published and on the impact factor of publications. Internal politics also play a key role,

but teaching excellence is neglected. An excellent teacher who does not offer evidence of engagement with research will always be kept from promotion by performance appraisal panels. Though controversial this issue may be, people prefer to silence it, because the majority prefers to comply, respect the hierarchy and avoid disrupting the majority, who apparently is very comfortable within the status quo” (Q28:14:29).

Academics feel that it is ‘easier’ to get promoted on the basis of research, describing how promotion is not within reach for them in the near future because they prioritised teaching and learning. This sentiment highlights how HEIs need to examine existing systems to ensure that academics devoted to teaching excellence are also rewarded. Similarly participants described the negative effects surrounding the uncertainty about what really counts, explaining how they receive and process conflicting messages from management.

“The situation in this university has escalated to such an extreme point that even research that specifically addresses teaching practice from a certain disciplinary angle and that is published in an Education journal will score less points in the appraisal exercise than a so-called hardcore science publication. So an article published in a top tier Education journal means less than an article published in a Management or Economics journal, even if the impact factor is equivalent. This is nonsensical and reflects an entrenched culture of prejudice against educational research. The reasons for this distinction remain unclear to me. But it is obvious that this deters anyone from developing a keen interest in educational research and in improving their pedagogical praxis. It is a wrong message to be signalled by management. It’s like raising a red flag against teaching” (Q32:30:52).

HEIs prize research success, enduring excellence and individual commitment to subject areas through publication above all other factors such as teaching, engagement in policy

making and wider services to the society in general. Above all, the job of educating students is perceived to offer little reward, very frequently carrying the derogatory label of teaching load.

“It all depends on the strategy followed by institutions. There are clearly research-oriented universities where an academic’s teaching duty bears the derogatory label of teaching load, hence something to avoid. The ones who suffer harsh consequences are precisely the academics who excel at educating students and who hold exemplary teaching skills, because tenure and promotions are not based on teaching skills. My institution is clearly research-oriented and the management pushes academics into this professional profile. The majority of staff falls under an internal classification – profile A – in which teaching represents 40% of the workload. Academic staff classified under profile B have a teaching load of 60%, but this is essentially the case of Invited Professors, who are hired on a rolling contract basis. Their labour situation is precarious and the research they conduct is not evaluated” (Q8:36:53).

Some academics would welcome opportunities to express their views and contribute to the elaboration of institutional policy that could inform and acknowledge good teaching. Another idea frequently advanced reflects the need for reviewed policies that recognise teaching, research and service to the wider community in the appointment and promotion of academics.

“Any changes in the criteria for academics’ performance appraisal with a view to rewarding e-learning development or more generally the scholarship of teaching are very sensitive, and should be determined by governmental decree. If you analyse the present situation carefully, you will notice a latent contradiction. Academics get their salary to fulfil teaching obligations, not to conduct research, which is exactly what matters in performance appraisals. Not to

mention another very important mission of universities – the engagement with the community, the establishment of innovation centres and research spinoffs - which is completely ignored in Portugal” (Q17:14:55).

4.2.2.2 Low learning and teaching oriented values

This barrier refers to the tensions between research and teaching in HE. Traditionally, the two key functions of a University are to carry out research and teaching. However, the balance of research and teaching is precarious, and research is perceived and rewarded as the dominant function.

“In my opinion, Higher Education Institutions have failed to keep up with the pace of time. They were overwhelmed by societal developments and have ignored the importance of teaching and educational theory. Theories of teaching and learning are fundamental because they force teachers to rethink processes and the very infrastructure of their practice. At organisational level this is also very important because it is core identity of the experience we offer to students” (Q47:32:70).

Across interviews with informants there is consensus that the emphasis on research in determining academic careers has gone too far. Teaching, administration and other tasks are regarded as second class, and the quality of teaching provision is not amongst the central priorities.

We have got to the point that if anyone has any substantial claims to make about teaching methods than that person is completely against the mainstream. The mainstream is to avoid preoccupations with learning theories or pedagogy because those are seen as

unnecessary strands. In Portugal I do not see any concerns about teaching philosophy and anyone who tries to pursue or establish that agenda at institutional level is systematically under attack. (Q2:31:57

However, more and more voices criticise HEIs' failure to provide, value and reward opportunities across the range of professional academic tasks to avoid the binary opposition between research and teaching, which typically results in a derogatory qualification of the former:

“You know, in Higher Education Institutions, the issue of teaching pedagogy is extremely sensitive. It produces a surge of antibodies. Pedagogy is for primary school teachers – this is the dominant perspective. And the dominant attitude among academics is to consider Education as, obscure, dark sciences” (Q32:26:46).

Academic staff performance appraisal instruments were also strongly criticised across interviews for the apparent disconnect from the scrutiny and validation of teaching practices, processes, strategies and procedures. At present, the validation of pedagogical certification consists in a one-off public lecture without students.

“Do you really think it is believable that any academic will fail the habilitation lecture, which is a teaching without students, after having endured years and years of lecturing? It is not a candid exercise. I do not mean to say that all academics are poor teachers. What troubles me is that there is no way to establish the difference between good and bad. From my own experience in a different country I can tell that I learned a lot from observations to my sessions. I learned from realising my own mistakes but also from being asked to change certain procedures. More experienced peers have developed techniques that are more sophisticated, they have the wisdom and strategies that ought to be shared. No one is born a teacher. Scientific competence is of course very important but that is

not in itself the principle that will ensure teaching excellence”
(Q26:23:39).

Also the recruitment procedures are under attack for neglecting the centrality of teaching and being blind to candidates’ knowledge about the aims of instruction, assessment, and student learning.

“There is a tremendous imbalance. Academics get their jobs on the basis of their scientific competence. I could have been consistently promoted to higher professional ranks teaching Anatomy without having ever been observed or without a scrutiny of any type on my pedagogical practice. What has always been the assumption is that the good researcher will make the good teacher yet over and over again experience disconfirms this belief. There are catastrophic examples from colleagues who publish in the best international journals, but who are the worst teachers at their institutions. They are not good at communicating, their area of expertise is so specialised that their teaching focus is too narrow and difficult to reconcile with the curriculum. This is a matter of sensibility and the pedagogical qualification of academics is essential” (Q25:33:51)

These critiques shape the perception that if HEIs are seriously interested in promoting the quality of higher education, and in improving the effectiveness by which teachers teach and students learn, then it is to the teaching process that they must look, particularly the issue of pedagogical qualification of academics:

“The pedagogical qualification of academics is a difficult issue to tackle. Academics form a complex ecological niche, and they are very reactive against the very concept of pedagogy because they perceive themselves as authorities and specialists in their field. Yes, it is true, they are specialists and scientists, but what do they understand of

didactics, pedagogy and strategies to integrate technology in their teaching? The answer is absolutely nothing” (Q18:8:18).

With e-learning the issue of academics’ pedagogical competence is re-introduced because learning online is contextually different and situationally specific. The role of the academic in web-based teaching is significantly different from the teacher’s role in traditional education, with facilitation roles emerging at the forefront:

“E-learning introduces a major pedagogical challenge because in online environments students experience a technologically mediated access to learning objects. And we are all accustomed to and trained to respond to a face to face instructional situation, which is completely different. E-learning is mainly based on facilitation and on the creation of contexts for interaction” (Q28:7:13).

Accordingly, several informants agree that being a competent teacher online is not simply adding technology to the existing content domain. Rather, it requires the acquisition of a renewed awareness to the dynamic and transactional relationship between content, instruction and assessment:

“Academics in general are very underprepared in terms of pedagogical skills. They are not qualified in Education. Their teaching is based purely in intuition, hunches and perception of what might or might not work. Now I think that pedagogy cannot perform miracles because once someone is a bad teacher, there is very little to do to improve that. With e-learning however, pedagogical skills are important because the essence of this instructional mode is communication and interaction. And universities are already filled with excellent scientists who are unable to communicate or transfer knowledge whatsoever” (Q47:29:65).

4.2.2.3 Lack of recognition

Lack of recognition has been found to inhibit academics' willingness to adopt e-learning, since their contribution to bring about change in teaching and learning practice through integrating educational technology is underestimated, and the efforts of these individuals are not recognized and rewarded. The level of negative feedback registered is expressed with a mix of resentment and frustration: "[We get] nothing, absolutely nothing. Zero" (Q3:36:74). Others remain confident about their chosen course of action, believing that the quality of their pedagogical practice will speak for itself, regardless the institutional silence: "I am only accountable to myself and I can say that I am satisfied with my own achievements. Institution-wise there is no recognition of any kind. Amongst my colleagues it is also non-existent" (Q17:30:124).

To those academics who act passionately and in the most disinterested way, the real driver for e-learning adoption is the realisation of pedagogical benefits and the attainment of personal fulfilment that comes from cumulative successful experience and from the hope that at some point their efforts will pay off, also in terms of visibility and professional esteem:

"I am very pleased about how things have developed and about how I have been able to apply technology to enrich my teaching. I think recognition takes time but somehow it will happen, helped by greater visibility. I created a website to host my students' multimedia projects and a webmagazine where their written stories are featured. I only wish I had more time to feed the e-learning platform with more contents, as it deserves. I may add that my blog has made an important contribution to establish my professional reputation. I created it 10 years ago and it is extremely helpful to structure my teaching both online and on campus. For example, when I am lecturing it happens sometimes that I remember about something that I had written previously on the blog. What I do next is systematising that information to create a new post for my students. I feel somehow satisfied and rewarded by this practice" (Q35:21:41).

Paradoxically, some of the academics whose innovative enterprise and individual efforts in developing e-learning should be acknowledged as unique pockets of excellence are instead perceived as threats to institutional and individual interests, despite occasional evidence of external praise for educational materials being made available online:

“I realise that I am actually perceived as a threat or an aggressive agent that undermines the status quo. It exposes my peers’ debilities if I use online learning environments and my colleagues do not. So internally there is not a shred of recognition or appreciation. Externally my work is praised and acknowledged. I am regularly invited to speak at conferences and share my teaching experience online. Externally, more and more individuals become aware of what I produce and share online to enhance my students’ learning experience” (Q3:36:74).

Disenchantment sets in as academics realise that even their peers fail to acknowledge the importance of e-learning. However, it does not overcome the personal satisfaction extracted from being an innovator:

“I consider that obtaining recognition from colleagues is a very subjective process. It depends on the colleagues’ capacity to understand the importance of e-learning. Some of my peers do value the extended teaching presence afforded by e-learning, whereas others fail to realise the benefits. From a personal point of view, and because of the great share of learning it has allowed me, I consider e-learning to be immensely rewarding” (Q48:31:50).

The low levels of acceptance and recognition are not exclusive of individuals. At organisational level too, academics sense that e-learning adoption is insufficiently encouraged by instruments that ensure adequate recognition, thus compromising a sustained development or a strategic approach to institution-wide mainstreaming. The

disappointment expressed does not prevent these academic from identifying possible sources of reward that may promote a more sustained approach to e-learning adoption:

“Recognition at institutional level is variable and sporadic. It occurs for example when academics need to write evaluation reports for their research centres. But it is an insipid form of recognition, which emerges as an indirect way to praise the distinguished work of some fellows. There are other indirect forms of recognition, which can be satisfying for academics beyond financial incentives, which do not exist. I am thinking of opportunities to speak at international conferences, for example. To be honest, I am not very clear about potential sources of recognitions. I am nevertheless certain that something needs to be done in this regard to increase the reach of e-learning” (Q14:30:45).

Besides monetary rewards, academics do seem to value alternative forms of recognition such as professional development opportunities, research networking, sponsorship for participation in international conferences, or awards for teaching excellence online:

“The existence of incentives can help mainstreaming e-learning adoption by academics. These incentives can actually be symbolic, for example awards for teaching excellence online. Increased visibility for academics with distinguished online teaching experience would also be welcome” (Q8:34:51).

Prizes for online pedagogical excellence are already a reality in some institutions. They extend to e-learning adoption the tradition of being recognised by their fellows, which is part of academics’ professional ethos. Consequently, it is only natural that academics that develop good practice online take pride in their peers’ recognition and accreditation. Furthermore prizes and awards are praised by academics for serving the dual function of communicating the relevance of teaching in the academic profession, and the commitment of management to the alignment of e-learning with the wider organisational strategic goals:

“This university awards a pedagogical excellence prize every year. I recommend other institutions to learn from this institutional initiative and clearly signal how important e-learning is to achieve organisational goals. It communicates that the university understands and somehow wants to value the time academics choose to devote to developing e-learning and quality teaching in general. This prize is an incentive to increased pedagogical awareness. It is a money prize, which academics can use as they please. They can choose to attend a conference or purchase research instruments. The prize is awarded during the University Day celebrations and one of the criteria for application is providing evidence of high students’ satisfaction rates. Last year 40 academic were given this award. It’s a considerable investment made by the administration to reward excellent teaching” (Q49:33:65).

In the voice of an awardee, the advantages of an award-based recognition scheme are manifold and span from esteem to institutional prestige, although a career-impacting reward would be more desirable:

“The e-learning excellence award generates recognition from colleagues and raises awareness about educational technology. However, the scope and reach of this initiative are limited because it is not transferable into any specific impact on academics’ careers. Apart from this, of course there are very positive outcomes of being awarded this prize. The faculty becomes more prestigious; teachers can more confidently present their teaching practice because the award reinforces their authority. Also, the prize gives us good publicity, which is fundamental in attracting students” (25:37:55).

However, whilst some academics recognise that the existence of prizes and incentives would convince academics to adopt e-learning, others admit that prizes and rewards are

insufficient because they don't recognise properly that teaching online implies increased effort and workload:

"(...) I am sceptical that the quantity or quality of prizes and awards would suffice to develop a sustained, long-lasting engagement of academics with educational technology. It is maybe easier and justifiable from a philosophical point of view to understand academics' praxis and establish a rationale for change" (Q50:23:27).

Another stream of criticism against the merely symbolic consequence of online teaching excellence awards claims for the implementation of participatory mechanisms that ensure academics are given not only voice, but a more active decision-making role in any e-learning mainstreaming strategy:

"A good strategy to convince recalcitrant academics to adopt e-learning is to involve them into the decision-making processes by appointing them to project management roles. They will perceive benefits because they will become directly involved. And they will feel acknowledged and recognised because they will play an important role that commits and motivates them to achieving good results. These individuals are gradually introduced into the e-learning community and they practice will be gradually contaminated. At some point, they will be standing on their feet confidently and delivering high quality teaching online" (Q4:48:64).

4.2.2.4 Low levels of participation and communication

A dominating assumption about the role of interaction and interorganisational communication was that socialisation enables critical knowledge about e-learning to be transferred between individuals and groups through shared experience. Unfortunately, opportunities to enter institution-wide discussion fora appear to be limited:

“The problem is that it is difficult to teach quality and to control quality. Then, when there are no control systems and no possibility of exchanging opinions, there is no margin for improvement. What we are missing is the opportunity to engage in dialogue, in the exchange of experience and in the critical appreciation of opportunities for development” (Q26:22:39).

Nevertheless, amongst interviewees there seems to be agreement around the idea that e-learning innovation can only be forged within a social system, anchored in a context where creative individuals share their knowledge, and where collaborative learning, co-operation, and synergy networks emerge to capture and exploit knowledge:

“A top-down strategy is not responsive in my point of view because it does not generate commitment. And a bottom-up strategy becomes too uncoordinated. The best solution would be a mix of the two approaches to achieve more coherence and cohesion and to avoid underusing institutional expertise, knowledge capital and valuable resources. To illustrate the state of things here, this institution is absolutely clueless about e-learning development models and completely unaware of what models are actually enacted by the academics who work here. Similarly there is no information available about levels of use, not even the curiosity to investigate and find out if teachers are actually at least using Blackboard as a repository of lecture’s materials. There is no knowledge about the integration of technology in classroom, consequently there is no vision and no strategy” (Q8:29:45).

The importance of mutual support in enhancing academics’ individual performance at work was also emphasised extensively. Examples included attending best practice sessions, taking part in multistakeholder meetings, and spending time working together in cross-disciplinary collaborative projects:

“Yesterday there was an e-learning strategic meeting with the Vice-Chancellor and for the first I was invited to participate, and to represent the Education discipline. My colleague from Computer Science has been onboard the project for a much longer time. For him everything seems easy because the technology is extremely responsive and ubiquitous. All seems evident to Computer Science people to such a degree that they forget people from different disciplines don’t master the concepts at the same level. So in a way, I think that having been asked to join the strategic meetings as a representative of Education was extremely positive to foster greater communication. Inevitably we will have to work together, to dialogue and to share experience”. (Q22:23:34)

Opportunities for Informal learning at work have also been mentioned by academics. They involve the processes by which individuals learn in their workplaces outside the realms of formal education and training. The emphasis here is on recognising the social significance of learning from other people.

“Within every organisation there is something we all need to benefit from, and that is transforming informal moments in useful learning moments. It’s the best organisational learning strategy, but people need to be open to this experience” (Q30:30:52).

Such openness to informal learning opportunities is currently missing in HEIs. From a strategic point of view it requires socio-cultural approaches to knowledge creation, the negotiation of what counts as competence and expertise, and collective perspectives on the development of knowledge in action.

“I believe that we need a transverse structure that crosses all sectors of the university. That is clearly missing. Something else that worries me is that departments are too isolated, too focused on pursuing their

agendas and too focused on following their established channels, their markets, their customers, their training packages. There is no intersection of common interests that certainly exist across units, schools, departments. This absence of communication is delaying us; we are twenty years late waiting for something to happen. Now that is too much time” (Q24:38:197).

All in all, what is requested by academics is the collective and negotiated construction of different types of knowledge, each developed over a lifetime learning trajectory:

“There is no public, open policy, there is no discussion. There seems to be a closed private script, and we should be a community that works collaboratively around shared objectives. The script needs to be a collective design, directly relevant to our practice” (Q11:60:113).

4.2.2.5 Power structures and relations⁶

The construct of power structures and relations refers to the legitimacy of authority in HEIs, and to academics’ degree of agreement or disagreement to the substance of decisions. In accordance to the views advanced by informants, legitimacy is understood as power structures’ ability to generate commitment to an idea through the production of voluntaristic adherence.

“If you ask my personal opinion, I think it makes sense to discuss e-learning options across the board and in the different consultation fora. The Pedagogical Committee is strictly a consultative body and

⁶ The term is employed in the sense originally proposed by Beer et al. (2005) in their investigation of strategic management as organisational learning. In their research it is argued that “without the appropriate organisational structure and capabilities in place, [an organisation] will not be able to implement its strategy successfully”.

only the Scientific Committee has effective decision making power. Regrettably what we witness today is a growing concentration of power in fewer bodies. To make binding decisions concerning a global e-learning strategy one would need to get approval from the Rector” (Q45:60:90).

However, in the specific case of e-learning adoption, the premises that sustain decision are not readily shared. Academics blame the routine ways in which they behave towards each other, and to the complex ways in which they are linked to different groups or committees across HEIs:

“And then in bodies that have binding decision-making capacity such as the Scientific Committee, a great amount of the collective effort is directed into dealing with bureaucracy and administration and very little time is devoted to discussing or approving measures with real strategic impact” (Q33:10:12).

Most of the times, instead of lubricating the working of HEIs, the usual way things are done represents a barrier, and reflects an inability to change because of a superimposing protective core of power-related assumptions, or power imbalances:

“There is also an important power imbalance that undermines the proper development of a teaching strategy and that is the inferior standing of the Pedagogical Committee against the Scientific Committee. The Pedagogical Committee has no decision making power, it is merely an advisory and consultative body” (Q3:30:60).

On the one hand, academics criticise the strong rule-orientation nature of specific teaching and learning activities, such as the creation of degree modules:

“The structure of a module needs to be formally enacted in the Public Journal, which is where the governments’ official records in a

judicial sense are published. Nevertheless, the contents of the module are not publicised to the same extent” (Q8:39:57).

This statement reflects an example of power structure in which the authority is top-down. There are formal communication channels which are usually vertical, and there is a rational structure that provides formal conditioning, although not always in the most welcome ways.

In other instances, academics feel restricted within formalised behaviours, and unable to take action in usual circumstances, such as the change in pedagogical practice imposed by e-learning. When reflecting on the possibility of establishing peer observation as a possible quality assurance instrument for e-learning, one of the interviewees refers to the autocratic nature of HEIs’ power structures as an impeding factor:

“The new Higher Education Teaching Profession Act paves the way for new instruments of performance appraisal such as peer observation – a model that is already in practice in secondary education. But I doubt that such a model will ever be implemented because academics’ opposition and resistance. It’s a symptom of how hierarchical this system is, with Full Professors sitting on top, holding discretionary power and not willing to give it up” (Q19:36:62).

However, it is not only the rationality of power structures that is subject to criticism by informants. Several interviewees mentioned the strong self-interest of specific groups, particularly the most senior staff:

“In the case of performance appraisal power disparities will become more apparent because it will be the most senior – the Full Professors – who will evaluate their colleagues. So in my opinion, performance appraisal in Higher Education is geared towards replicating the status quo” (Q19:15:25).

When individuals pursue their own goals (mostly on selfish grounds), conflict is seen as a normal part of the game, and internal coalitions are perceived to serve only the purposes of those who have the same interests and then try to influence the direction of the organisation, for instance in the recruitment of academics:

“I cannot hide from you the important role played by issues such as ideology or the political affiliation of many of the key stakeholders making decisions in universities and conditioning their peers’ professional progression accordingly. We tend to think that the pre-democratic forces in operation before 1974 are entirely diluted and that decision making is now completely transparent, reliable and transparent. That assumption is removed from reality, very little has changed because most internal competitions are based on documentary evidence and not on public demonstration of a candidate’s merit. The selection of candidates for positions is an administrative exercise and the real merits of candidates remain unaccounted for. This creates the opportunity for institutions to select candidates who they know are ideologically aligned with the administration. And the problem is all the more serious if you decide to officially contest the results of a competition that you consider to be unfair. In such cases the most likely outcome is that you will be systematically bullied and ignored. From a personal relationship point of view this becomes unsustainable and very difficult to manage because you’ll end up completely isolated. But that really is how academia operates. It is a political arena, in fact very similar to the Parliament” (Q21:24:25).

To counter the problems faced by an either excessive rule-orientation or an uncontrollable self-interest orientation, informants seem to agree on the pertinence of power structures and institutional relations that have a strong allegiance to participation, distributed leadership and interaction.

They advocate the benefits of more democratic power structures, where a group of people share the strategic power, and where participants interact in terms of collegial consensus. According to this aspirational model, rules, policies and procedures are relaxed to make space for enhanced interaction and participation in decision making:

“Since e-learning will not permeate the fabric of universities with a top-down strategy, the best way forward is to overcome resistance through creating groups of champions at Faculty level, provided that Pedagogical Committees are engaged. Pedagogical Committees need to participate actively in the shaping of any e-learning strategy, they need to warrant it to gain universal consensus. This is better achieved through gaining the intervenient’ personal trust first, through greater transparency in relationships and that only occurs when things are openly discussed amongst everyone in the adequate fora. This means that there is a double validation of the practice, both at bottom level by the academics and at top level by the bodies where the –learning strategy is being discussed. Progressively the discussion is then taken to the bodies that have binding decision-making capacity but then it will be easier to get approval, since all stakeholders feel they own the project” (Q45:30:40).

Within this power paradigm, individual contributions are highly valued and increase collaboration and integration, because the distribution of authority is assumed to lead to informed decision making – and consequently to generate wider commitment to decisions.

4.2.3 Structural-organisational assurance: Operational level

The operational block of barriers is concerned with how academics perceive e-learning specific tasks and working conditions as an impediment to adoption. If at organisational level e-learning is not perceived to generate relative advantage, and if it is not coupled with

instrumental objectives, then it is difficult to be convinced of benefits, particularly under circumstances of competitiveness and high workload. In this case, academics might lack the motivation and the ability to assimilate the new knowledge and work routines required by e-learning. This motivation is also erodible if academics feel that their freedom to gain new insights about e-learning is being constrained, particularly by decision-making styles that contradict the spirit of collegiality, or by the imposition of strict rules and narrow job descriptions. What follows is a detailed description of these barriers.

4.2.3.1 Perceived incompatibility with work rules and regulations

An absence of criteria or defining norms for virtual presence was indicated to be increasingly problematic with the transparency provided by developments in e-learning, which open up teaching as an increasingly public act. The administration of teaching and learning activities also seems to be affected by a mismatch between typical operational standards and expectations of campus-based instruction and the differing flexibility requirements that are the defining feature of online delivery:

There is internal turmoil and no one seems to be absolutely clear about the possible advantages of e-learning. I think we could invest in a blended learning strategy, but then in operational terms that clashes against established regulations that still haven't changed to accommodate more flexible teaching arrangements. How am I supposed to move my teaching online if at the end of the semester I still need to hand in the student attendance sheets of my lectures? I can only violate the rules or try to make an agreement with students in which we do e-learning and then I ask them to sign the attendance sheets. (Q9:31:34)

A simple comparative exercise is enough to conclude that e-learning is not permeating the practices of HEIs, since there is no tangible modification in the management of teaching

timetables. In fact, as reported by several academics, teaching timetables remain unaltered in spite of a growing institutional rhetoric that advocates flexible provision of instruction and student self-regulated learning:

“I think that a good indicator of the mismatch between institutional arrangements and the need for flexibility that comes along with e-learning is the way timetabling is done. There hasn't a change in teaching timetables for over 10 years. If e-learning was actually in use then changes in teaching timetables would necessarily be noticeable. An in reality they are not” (Q24:22:91).

Moreover, e-learning delivery brings along additional effort and unaccounted for workload, in comparison with traditional teaching. Academics reported that the effort put in the management of e-learning environments and in the preparation of high-quality educational contents does not come in proportion with how teaching times are credited, whereas time employed in online learning development is significantly larger.

There is no formal mechanism in place to enable a transparent and consistent monitoring of academics' workload with e-learning. What are in fact effective working hours? Is it the time I am active on the platform? There is no framework or reference document. In my opinion this is a barrier because this institution is extremely rigorous with workloading processes in traditional delivery, principally the measuring of teaching workloads. So there is actually a lot of scepticism and mistrust among some of my colleagues who think that a fellow teacher who is not physically delivering teaching sessions is actually ditching his or her teaching commitments (Q8:5:6).

As another lecturer expressed, quantification of e-teaching times remains a problem because:

“(…) it is hard to measure how much work is involved in e-learning development. Unless the criteria is a universal, equalising estimate for everyone, when in reality different faculty develop e-learning differently. The amount of time it takes to use an e-learning platform is so variable, depending on the type of use, that there can hardly be a precise measure. Although it is possible to use time as an incentive without looking at it as a measurable trade-off” (Q9:5:7).

Similarly, the current academics compensation system is criticised for not being designed to foster the scholarship of teaching: it is inattentive to the core competencies and the nature of tasks at stake in e-learning; and it is insensitive to the fact that it is not possible to manage or improve something that is not subject to some kind of systematisation and evaluation.

“In terms of institutional recognition, validation or accreditation of the teaching that takes place online, there is absolutely no record of anything. Similarly there is no record and no recognition of the proportion of time spent beyond normal working hours in the moderation of students’ online interaction or replying to queries sent by email. The workloading process does cover face-to-face tutoring time but that is clearly insufficient. In my case that is 1 hour on Thursdays. How can I be available to all of my students during that very limited time-frame? This means that there is no institutional recognition whatsoever. It can also be the case that we – academics – are not doing enough to promote change because workloading could be made more flexible to accommodate teaching and learning online” (Q14:12:18).

4.2.3.2 Forced top-down change

Bearing in mind the many aspects surrounding academics' professional status (stability of professional structure, pedagogical autonomy, research-oriented career) many informants agree that a thoughtful tactics of e-learning appropriation must be engineered as not to become excessively disruptive or institutionally controlled:

“Imposing e-learning will only lead academics into a state of mild desperation and they will end up being unable to cope. If for no other reason, at least because of the incapacity to deal with procedures and a specific vocabulary no one has really prepared them for such as the learning objects or even learning outcomes of specific learning activities” (Q23:10:13).

Vertically imposed guidelines or all-encompassing directives for e-learning embedding in educational practice - either emanating from governmental authorities or from the HEIs management - are regarded as a potential threat against academics' independence, individual reasoning and capacity to tailor intelligent learning environments

I somehow resist the use of e-learning platforms because I relate them to an institution-wide imposition. Furthermore I realise that e-learning is not being advanced for the right reasons and the rationale behind it is feeble. The sad reality of things for me is that if I want to still be an academic, I will have to adjust and teach half of my courses online. I have no other choice. (Q1:39:50)

Imposition can even be rendered counter-productive because of their invasive nature and their *de facto* operation as conventions for establishing the location and precise boundaries of a time, a site and a concept for e-learning.

“Vertical imposition will only generate superficial users, who will be unhappy teaching online and who won’t fully commit to a delivery mode they don’t really believe in” (Q20:10:19).

For they produce an excess of surveying activities and they constrain individual expression, administratively dividing what should be a spontaneous experience, strict planning manifestos aimed at drawing recalcitrant academics into compliance do not promote adherence to e-learning.

“E-learning cannot be imposed. Never. There is no imposed change because in that case it cannot be called change. When there is imposition there is no authentic change, only a superficial change in practice” (Q11:61:123).

Consequently, centrally-controlled, closed and rigid e-learning embedding strategy will have to consider measures of alleviation by preserving the linkage between academics’ commitment and a sense of identity and individual esteems, if failure is to be avoided:

“Anyone who knows Portuguese academia even at a superficial level will agree that it is pointless to impose anything. This means that any ambition needs to be moderated and dealt with extreme caution to avoid any type of backfire or backlash. Also to avoid any type of misinterpretation that could go against the initial objectives” (Q50:6:9).

Successful e-learning mainstreaming strategies require the acknowledgement that the design and planning of e-learning solutions has to be aligned with academics’ objectives and aspirations rather than deriving from an institutionalised interpretation of the technological capacities delivered by the system. Institutions need to signal that they trust academics’ agency and resilience:

“In rational terms it makes a lot of sense to think of a perfectly devised top-down strategy. But we all know that is not really how people operate. There is tremendous resistance, especially if we talk about academics, who praise their pedagogical autonomy very much and who are averse to any form of scrutiny to their teaching. That is the reason why I think top-down strategies do not apply to the real context. It’s above all an issue of human behaviour” (Q30:22:44).

Some degree of verticalisation is welcome by a minority of informants, who recognise the importance of a clear institutional commitment emanating from the Rector, and who claim that a clearly articulated strategy is essential to streamline and harmonise the provision of e-learning across faculties in the most harmonious possible way:

“I think that the degree of verticalisation of devolvement concerning the decision to adopt e-learning depends on the intended objectives. If the objective is to have all schools and departments in a single university operating as a unified network, in such a way that students can freely enrol in modules offered by different departments irrespective of their origin, then I would say that a strong verticalisation of the decision making process and of the operationalisation of e-learning is necessary to make sure everything works. This cannot be a process based on improvisation – something we tend to be very good at, but which does not ensure full reliability” (Q21:27:34).

A further example of the importance of top-down directives emerges from the recollection of how e-learning wider take-up by academics was only successfully achieved after the production of strict, binding internal guidelines:

“I do think that in some occasions the strategy needs to be top-down. I’ll give you one simple example. The mainstreaming of e-mail for official internal communications only became effective with an

internal directive. Otherwise academics would visit their inbox on a weekly basis and miss out on important information. An organisation is not really an organisation if there are no rules regulation how things should work. Otherwise there is chaos” (Q50:10:11).

Similar coercive approaches are being tried in some HEIs with learning management systems, where the management is forcing academics to use those systems, on a first instance, to record summaries of teaching sessions.

“I am aware that a strategy in place in other institutions is forcing academics to publish summaries of their sessions electronically. If they fail to do so, they will be considered absent. This makes summaries of every session accessible online to everyone. It is a coercive strategy, one needs to admit, but it seems to be working” (Q35:16:31).

Nevertheless, the majority of informants’ preferences seem to be more geared to the suggestiveness of guidelines than to the rigidity of imposed e-learning adoption targets:

“Both the administrative and the pedagogical uses of e-learning can only be fully exploited if some sort of guidelines or recommendations are available. But I don’t think these should be too prescriptive or imposing. If the use of e-learning was fully mandated and regulated by institutional norms, there would be attrition and resistance. We academics do not like it when the administration comes and tells us how we should do things” (Q14:27:39).

The availability of case banks and examples of excellent practice according to which academics could model performance was also mentioned as a potential facilitator of adoption:

“I don’t think that any type of imposition is the way forward because academics won’t buy into e-learning like this. Observing successful examples is a better solution in my opinion. Take the example of the anti-smoking laws. People were gradually prepared and educated; they were given examples and scenarios. There was a real pedagogy at work and it seems to be people learned. The same thing occurred when it became compulsory to wear seatbelts in the car” (Q47:18:37).

But above all, several informants agreed on the importance of safeguarding against the cognitive discomfort caused by radical change, thus preferring the sustainability and continual improvement afforded by incremental change:

“The real issue is that in terms of strategic decision making, this is a very painful process to a lot of people. At this institution people knew that completing the first training module would be compulsory. Obviously, there was absolutely no sanction to those who failed to do so. If you asked me if we actually know who decided not to take part in the training, we all know. To avoid this type of behaviour we started thinking of clever mechanisms that could not be circumvented and then inevitably lead to the use of e-learning. For example, an administrative procedure that would make academics use the platform to digitally archive session’s plans and summaries on a compulsory basis. This gradually induces the use of the e-learning platform and then there is the expectation that things will develop by osmosis, that students will push the change and refuse to carry on with a paper-based university” (Q31:9:14).

4.2.3.3 Insufficient incrementalism

Many of the academics interviewed considered that a major barrier to e-learning adoption across HEIs is the lack of a relationship-oriented form of planning – one that could pay attention to how different groups negotiate meaning and go about experimenting with educational technologies.

“Many of our academics are frightened, they are afraid that they will not be able to be the agents of change. These individuals need to be comforted, someone needs to ensure that they realise that e-learning is not a complicated endeavour and that it will neither replace campus-based teaching nor replace the role of academics. A gradual adoption is advisable and perhaps a good start would be the use of platforms of information repositories and evolve to greater complexity levels. Each tool and each new affordance of developing educational technologies needs to appropriate consistently. This needs to a paced process because it is necessary to integrate them into a coherent pedagogical approach” (Q8:45:73).

They consider that several institutionally-sponsored strategies fail because they are grounded on the erroneous assumption that precise predictive models of use are viable, whilst with e-learning small incremental steps are perceived as a better approach to produce a gradual development of shared values among academics.

“It is important to gradually experiment new features, try out and see how functionalities operate and, step by step, this process will cement adoption. It is an incremental process in which academics adapt to new functions, gradually learning how to respond to demands from students and how to monitor students’ work” (Q10:48:98).

Incrementalism is therefore understood by interviewees as a good strategy, although one that is not sufficiently embraced. It describes the attempts of coordination under conditions of uncertainty, through the efforts by various actors. These actors try to achieve their objectives through mutual adjustment and ad hoc accommodations with other actors, unlike centrally sponsored attempts to achieve coordination through standardisation, schedules, and strict plans.

“Confident adoption of e-learning is prompted by slowly cumulative successful experiments that provide evidence of specific applications’ usefulness. I frequently show my senior colleagues how useful e-learning is and they are immediately charmed. What I cannot do is putting on the role of the arrogant preacher who is there to lecture them on the merits of e-learning. Their commitment to e-learning is gained with soft diplomacy actions such as sitting next to them as if it was a natural conversation, and showing them what e-learning tools can actually deliver to facilitate teaching” (Q30:28:52).

Institutionally flexible technology-enhanced learning environments that value locally nurtured knowledge and networks of contacts are preferred by academics, as they can reduce complexity, organisational conflict and staff anxiety. They provide academics with facilities to adapt and embed e-learning in local administrative processes, and the local teaching culture.

“In a blended learning teaching context, appropriation of educational technologies is an adaptive process in which campus-based sessions are enhanced with online interaction and with digital mediation of resources and learning activities. This requires from academics new levels of competence and digital agility. The basic level corresponds to proficiency in using technological devices such as the computer, the iPad and the smartphone. A second level requires the integration of technology and pedagogy for the design and execution of a

teaching a learning activity. Typical activities of this stage are searching for information on the internet, and creating an information resource with Word or PowerPoint. A more elaborate version of this level is the pedagogical exploration of educational technologies in a classroom context, which entails the collaborative use of web-based applications with students to solve problems, to demonstrate theoretical knowledge or to apply abstract concepts. A more sophisticated understanding of educational technology occurs when it starts being appreciated and used as more than a resource. It becomes an environment for the co-construction of purposeful instructional activities” (Q18:4:9).

Not surprisingly, a non-coercive approach linked to personalised methodologies and strategies is preferred to help avoid jolt or disruption to academics’ trajectories and sustained self-narrative.

“I believe that academics associate teaching tasks to specific images or metaphors that operate as cognitive representations. Perhaps a good strategy to help them make a smoother transition into technology enhanced teaching and learning would be to establish a sequence of analogies between hard and digital technologies. For example, the area of resources on the platform corresponds to the textbook; quizzes replace questions asked directly to students in lectures; discussion fora can be used to clarify students' doubts and provide amplification of the subject matters whenever necessary. My idea is that the replacement of old cognitive representations with new mental imagery can help academics transform barriers into steps. Climbing a series of steps is a lot easier than overcoming a hurdle of barriers. The unknown always emerges as a barrier, whereas mental images can provide a sense of comfort and develop the confidence to change practice” (Q50:16:15).

This normalisation of e-learning at the teaching practice level expects of academics the embedding of technological affordances into the pedagogical model employed and proceeds by small-scale, personalised developments, enabling the contextualisation of change.

“Incremental adoption starts with uploading instructional contents and managing learning activities online. It then evolves into creating communities of practice online, supported by systematic asynchronous communication. That is how I understand the continuum of adoption towards a paperless university. But it will take a long time still, because the majority of academics are still stuck in the early stages, paralysed by fears” (Q31:32:59).

Local approaches to e-learning development, informants have claimed, contribute to fostering personal incremental changes and a more solid individual decision to call on e-learning voluntarily.

“My best advice to those who are new to e-learning would be to avoid skipping critical stages and not to rush things. It is counterproductive to imagine that a campus-based course can immediately and effortlessly be made ready for online or blended delivery. Everyone will need pedagogical and technical support. This is my opinion, and it stems from an open understanding of e-learning. I am not interested in tutorial takes on e-learning. The model that I advocate is open, it does include tutoring, but it essentially entails the management of student-teacher horizontal interaction. Naturally the transition to such a model cannot be abrupt and it requires experiencing blended learning teaching and understanding for example how to manage a discussion forum, which can sometimes mean not intervening or interfering at all in students’ negotiation” (Q36:41:91).

This incremental approach gradually engages members of staff, through the choice of easy to use technologies, further allowing academics to increase technological complexity and capacity, whilst pedagogically-sound contexts of use. Consequently, the generalisation of technology-mediated pedagogical initiatives through locally-developed initiatives is perceived as an enabling condition to elicit academics' creativity and productivity. It is the spontaneous articulation of resources, systems and practices that facilitates the complementarity between innovations across the institution and the compatibility of values and goals.

4.3 Trust to Institutionalise

This subsection is concerned with identifying and explaining the variety of perceived barriers to 'actional-personal confidence' and 'structural-organisational assurance', which affect academics' 'Trust to Institutionalise' e-learning.

Trust to institutionalise means that the implementation of e-learning is cushioned by a shared understanding in systems, structures, procedures, rules and strategies that guide regular organisational action. Impeding institutionalisation means that e-learning is not adequately codified for consistent use. In practical terms this means that the institutionalisation of e-learning does not take place, as it is not implemented in HEIs organisational strategy, rules, procedures, structures and systems.

Barriers to structural-organisational assurance dominate, as can be observed in the concept map depicted in Figure 9. Nevertheless, a substantial number of actional-personal forms of blockage to the confident adoption of e-learning have also been identified, described and analysed, which contributed to a more balanced picture of the different types of barriers.

4.3.1 Actional-personal confidence

Actional-personal barriers to the institutionalisation of e-learning refer to the rigid and outdated core beliefs, professional values and pedagogical assumptions held by academics, which are perceived as incubating the potential of unwanted or inhibited adoption. This conservatism may be caused by academics’ desire to retain and protect a positive self-image, particularly if e-learning as an innovation represents a sharp contrast to past actions and decisions. Another potentially negative effect emerges from individual academics framing e-learning adoption as a potential source of unwanted risks, or if previous adoption attempts have been frustrated by ineptitude, insufficient autonomy, or previous unsuccessful experiences. What follows is a detailed description of these barriers.

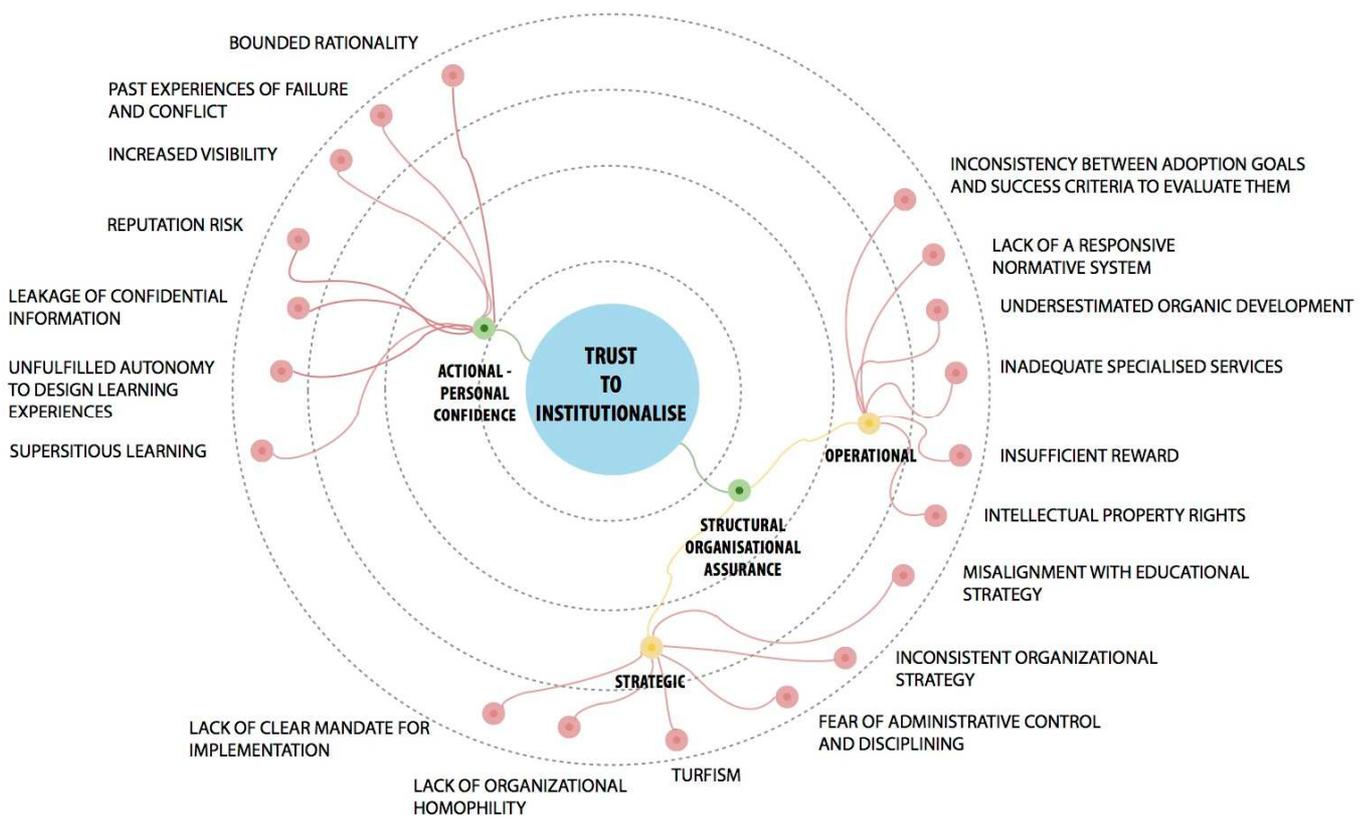


Figure 9 – Concept map depicting the trajectory from codes, through to categories (‘Actional-personal confidence’; ‘Structural-organisational assurance’), and finally to the near-core category ‘Trust to Institutionalise’.

4.3.1.1 Unfulfilled autonomy to design learning experiences

Autonomy refers to the extent to which academics have the capacity to develop or improve their own teaching through their own efforts, by means of reflective, research-oriented, or experiential approaches.

“There is no specific provision about e-learning in the Teaching in Higher Education Act. And in pedagogical terms there is a tradition of autonomy. There is no direct intervention of the management in the imposition or suggestion of assessment methods, pedagogical methods and delivery strategies. Those decisions are taken autonomously by each academic” (Q48:11:18).

In the specific situation of e-learning adoption as framed by interviewees, autonomy refers to the levels of resiliency, self-esteem and sense of purpose that is typical of academics that successfully adopt e-learning:

“I know a quote that I think sits beautifully with the specificity of e-learning adoption. I don’t know if these are the exact words but it is something along the lines of “a man is only truly happy when he is able to build his own piano”. And one can assume that this piano is for him only to play. Similarly, I think a teacher is only absolutely fulfilled when they construct their own tools. Personally the use of technologies in education has made it a lot easier for me to build my own piano. My teaching strategies are intertwined with technology, but I am in control. The tip for success is developing the sensibility to build our own tools, expanding the possibilities at our reach through extracting pedagogical potential from technology as we see fit. A carpenter uses tools that are recognisable but he also creates small tools that are personalised and that are crafted and tailored for specific professional needs, for example to reach another inaccessible place or to take a measurement in a place not easily

accessible to the ruler. By analogy I do think that academics need to develop a similar adaptability and master the skill to tailor tools that are personally relevant because they suit our own individual characteristics” (Q43:50:100).

According to the evidence collected across several interviews, pedagogical autonomy – conceptualised as a strong sense of personal responsibility over teaching and exercised as continuous analysis of the teaching process – is an exercise of freedom, and a precursor of technology integration, beyond institutional constraints.

“I would say that because of pedagogical autonomy in Higher Education there is a gradation of experience. Academic freedom is very much praised. It is very difficult to summon an academic and tell them directly “this is how you should go about teaching this subject”. I would not say that it is impossible but teaching is a shared responsibility. It is extremely difficult to impose a teaching model. You can either find teachers who use the e-learning platform as a resource hub, whilst others are the catalysts of more collaborative approaches to learning” (Q33:7:11).

An argument frequently advanced is that self-determination and the ability to independently plan and craft the learning environment is at the basis of the successful articulation of technological, pedagogical and content knowledge:

“I think that the level of sophistication imprinted by the teacher can grow as the multimedia complexity grows but this requires a progressive approach to mastering different applications of the functionalities of a specific e-learning system. I would then say that the personal commitment of each academic is crucial to determine the profile and the quality of the resulting online module” (Q29:3:3).

In this context, academics' autonomy entails a combination of competence and confidence to build and implement a theory of practice that is simultaneously responsive to the particularities of educational contexts, and receptive to the possibilities of organisational conditions.

“There is a proximal zone of development that is sufficiently close both to innovative practice and to academics' comfort zone and I would say that there is the ideal spot to explore because that is where it is possible to extract added value. That is also the zone where Higher Education Institutions need to act strategically. That zone is not fixed, it varies according to each disciplinary area, but certainly it cannot be too removed from what people usually do. For instance, if one academic enjoys storytelling, then he or she must explore a digital tool that maximises this skill and takes it into another level. This is my contention and my conviction. The way forward is identifying the niche academics feel comfortable with and applying a digital filter or layer on it that will enhance practice. This is how the opportunity for technology adoption is reconciled with personality traits” (Q50:22:24).

However, such competence and confidence can only evolve if academics have the desire and the determination to acquire and assert a fair degree of autonomy in pedagogic decision-making.

“In methodological terms it only makes sense to devolve autonomy to the intervening agents and those are the teachers, they are the ones who should define the most responsive pedagogical strategy and how technology enacts it” (Q40:24:68).

In practical terms, the degree of autonomy in pedagogic decision-making comes to being through applying individual professional skills to the definition and execution of a suitable range of online activities:

“Choosing the suitable way to teach online is related to each academic’s personality. I don’t mean to say that I will refuse to do anything that is imposed on me. But what really fulfils me is pursuing my personal initiative because I do not like to feel that my work being monitored. For example now at my institution we all have to use Moodle. We were advised to migrate into the platform but the notice comes almost as an ultimatum. For this reason I moved most of my contents and the online activities I develop with my students to Ning, mostly to avoid being controlled” (Q30:7:19).

This application of reflective and self-managing processes to teaching is also inducive of learner autonomy, since it is also built upon the willingness to help learners take responsibility for their own learning. However, academics that perceive themselves as powerless to behave in an autonomous way, or inhibited to craft their students’ online learning experience as they please, may growingly feel disaffected:

“One of the guiding beacons in Higher Education is academic freedom and academics’ pedagogical autonomy. This freedom entitles academics to making many mistakes but it is also an incredibly empowering tool that produces fantastic outputs. Whenever I hear someone who thinks that perhaps it would be better to create an institution-wide teaching and learning strategy I always think that would operate as a constraining script, as something that would prevent the most valuable and the most creative academics from excelling. This would kill the mission of universities” (Q15:35:61).

Even when at institutional level there recognition that e-learning take-up levels are satisfactory, the general perception that prevails is that forceful approaches to adoption are not effective and unable to generate the necessary commitment. As an alternative, some

informants have suggested the creation of guidelines to act as suggestions, but reaffirm their stance against imposition of specific e-learning models:

“E-learning adoption depends entirely on each academic’s will and intention. If these are non-existent then it is of very little use to try and force them. It may even be counterproductive. The academic staff should be able to decide on how to best achieve educational results. Forcing them is not a good strategy. It also seems to me that the solution does not lie with the management issuing some sort of compulsory regulation. Maybe at the normative level some guidelines can be helpful. The existence of case studies and examples of successful implementation may also be helpful. These can be followed but there should not be an imposition – change cannot be made compulsory, it cannot be created by request”.

(Q16:17:66)

4.3.1.2 Misconceptions of successful adoption

The development of face-to-face teaching competence and the co-evolutionary development of confidence in the pedagogical strategies associated with this traditional mode of delivery were often referred to by informants as inimical to e-learning meaningful adoption, since the features of face-to-face teaching and learning prove to be inefficient in online learning environments. This occurrence has been coded as misconceptions of successful adoption, because it lies fundamentally on the overlap between subjective experience and the misunderstanding of e-learning outcomes.

For example, it is easy for academics to develop erroneous judgements on what constitutes successful e-learning practice based on insufficient experience:

“We are still living the advent of e-learning and that in part justifies why so many experiences have gone terribly bad. There are tragic cases and that in fact diminishes the impact of e-learning and in a way threatens its strategic positioning. The problem is that technological development is fast but human development cannot keep a similar pace because it remains attached to values, norms and cultural patterns” (Q18:30:68).

Consequently, the most direct consequence of misconceptions of successful adoption is academics potentially falling into confidence traps, since the accumulated past experience is erroneously perceived to be easily translated to the context of e-learning:

Even when academics overcome their natural resistance and decide to experiment with e-learning, most of the times they are not able to let go of their worked routines that in a way give them a sense of safety and protection. This is very clear when I see my colleagues using educational technologies in a very directive way that mimics the transmissive teaching philosophies. This prevents them from extracting real benefits from technology because the real benefit lies in transferring control of the learning experience to the hands of students, allowing them to do things, to think on their own, to reflect about their creation. It’s a matter of overcoming a dominant cultural matrix within which many academics remain enclosed. (Q3:10:16)

A correlated organisational behaviour manifests itself when e-learning appropriation is performed mindlessly and in absence of scripts that conserve cognitive capacity and the integrity of online learning’s value proposition. When a sound basis for organising and evaluating e-learning implementation is missing, and when operating routines are prematurely closed around surface approaches, the opportunity to transform educational practice is missed:

Many of my colleagues ignore the literature, have no knowledge of examples or best practice and is happy with models of use that are the product of their spontaneous interaction with e-learning systems. You won't believe that when we had to agree on an e-learning model for this institution the main concern on people's heads was the production of a standard template that everyone could use! This is almost a joke but it is exactly what happened. The priority was the creation of a single corporate identity, common PowerPoint templates, colour scheme, fonts, etc. And all of this was suggested by someone who called himself a specialised consultant. The episode is almost insulting because for us who know what e-learning is about, these details are completely unimportant. But those who are ignorant about the core issues of teaching and learning online will remain ignorant. This happened not so long ago, in 2003. And in all reality the use of e-learning platforms depends entirely on the pedagogical and didactic dynamics the teacher is able to imprint. The outcome can either be a dry content repository or a rich collaborative learning environment. (Q33:32:50)

Similarly, believing that the successful implementation of e-learning depends largely on a one size fits all situations does not work. There are limits to the efficiency of scripted actions and often academics' expectation of a structured organisation of online learning activities by specifying a fixed sequence of events may actually lead to shallow impact.

E-learning is not a panacea or a medicine one applies following the doctor's prescription. Another basic mistake is the assumption that the development of e-learning follows a common protocol and that by following the same recipe results will be replicable elsewhere. In reality that is not the case and there are many aspects that need to be factored in, such as the information literacy of the agents involved. Different levels of information have different impacts on the depth and quality of the e-learning experience. (Q16:5:14)

Furthermore, overcoming the short-sightedness of misconceptions of successful adoption means that academics are able to see success beyond the confines of technological self-efficacy or content-driven approaches to e-learning implementation (e.g. number of learning object downloads, number of pages views, etc.):

If academics' pedagogical model does not change, if there is no innovation in the way things are done, then technology will only replace the hardware, and the level of practice will never be permeated. Then the adoption of e-learning is not necessary at all. The biggest change needs to take place in academics' mental frameworks (Q11:22:29).

Another instantiation of misconceptions of successful adoption involves situations in which subjective evaluations of success are insensitive to the impact or to consequences of the actions undertaken. Several informants reported the limited impact of using e-learning platforms as push and pull systems to display static contents, therefore ignoring the interactional or the experiential affordances of e-learning.

"If a teacher had scanned a book chapter or uploaded an article someone else wrote onto the platform that in itself cannot be considered content. That is not the type of content we want, we want something that students can manipulate and interact with. A good example of this for children is the use of programming application such as Scratch it where the teacher can offer the content of context, but the student is free to become an author and is empowered by technology to change, innovate and recreate original contents in a way that supports a specific learning objective. Now this is substantially different from dumping presentations in a platform (Q11:50:93)".

The erroneous understanding of e-learning as the simple use of web-based repositories of educational materials typifies the most acknowledged example of misconceptions of successful adoption:

It may sound like common sense, but I think that it is never enough to fight an erroneous idea that is encroached on a lot of people's minds, and that is the idea that e-learning is the simple act of depositing contents onto a web-based platform. That is a grain of sand in the desert. It is true that there are benefits associated to a greater care and quality concerns when we upload contents that will remain accessible online to students but then the only gain is ease of access. There is apparently no substantial difference to sending the very same contents via email. What cannot be missed is that the defining features of e-learning are the possibilities of communication, interaction and cooperation. That makes the difference. (Q44:45:66)

Much to several informants' discontent, this type of experience has become a pattern, a defining concept, and a rule of thumb for those who are new to e-learning. It may have even changed the behaviour of many academics that were not typical users of technology. However, it hasn't disrupted academic practice at a deep level:

"It is beyond discussion that there has been considerable numerical growth in e-learning adoption. There are figures that support our perception that the number of academics who adopted e-learning is on the rise. Nevertheless, from the anecdotal information that I collect from colleagues and from students, this is restricted to the use of platforms as content repositories, where PowerPoint slides and other documents from theoretical sessions are stored. This means that the majority of interaction taking place is static. Only a minority of academics experiences the full potential of educational technologies" (Q12:15:14).

4.3.1.3 Past experiences of failure and conflict

Some academics frame their understanding about the affordances of e-learning by encoding direct and secondary experience into rules that direct reaction or actions to be taken in response to stimuli prompting adoption.

It is as if at the front end of academics cognitive capacities, e-learning features would be extracted, categorised as relevant and irrelevant or even prioritised according to the weight or importance of previous experiences of use. If these prior experiences convey messages of failure and conflict, e-learning may be perceived in detrimental ways. The cognitively-stored information of a bad experience will influence academics' perception in a negative way, as some people become attached to their repertoire of encoded action/reaction, instead of searching for new responses.

One unfortunate mistake that has been reported extensively refers to how HEIs rush to implement e-learning ignoring the intersection of technical infrastructure and requirements, technological expertise, and responsive support of senior management. A particular episode recounted during data collection interviews refers to a particular HEI where the use of the Learning Management System was discontinued and not replaced in a timely manner, even after academics had undergone specific management-sponsored training sessions that at the end of the day were rendered obsolete.

“Halfway through last academic year, the platform was no longer available because it would be replaced by a new system. There are corridor talks about the new system, and almost everybody seems convinced that it will be Moodle. But there is no official communication about this or no attempt to make the decision more participated. Meanwhile until now nothing is definitive and we still don't have a platform. But before this episode the Rectory had circulated an official document requesting the expression of interest from academics willing to enrol in the first e-learning training course. I expressed my interest and luckily I was admitted. I attended and completed the course with success. But it is surprising that now they change the platform we were using” (Q21:6:5).

Funding shortfalls have also been identified as a root cause of logistical bottlenecks and stalled e-learning projects, since the recruitment of specialised staff is put on hold.

“The problem is that funding is scarce at this stage and the further development of the e-learning project is at risk. The very usefulness of the project is questionable if we can’t find the means to support the technical staff. We then become unable to ensure the continuity of e-learning. And this is to a great extent why the academic staff do not perceive e-learning to be a continuing endeavour. In the absence of funding and specialised support staff, it gradually dies out” (Q26:2:5).

Another dimension of failure refers to the inefficient and ineffective use of IT, which undermines the successful delivery of the e-learning based components of courses and compromise the acceptance of educational technology. Consequently, ensuring that the university IT infrastructure is rich, reliable and capable of providing modules and courses with the necessary tools to make the delivery process smooth is critical to the overall success of e-learning:

“There are many examples of critical incidents with the use of Blackboard. The reliability of the information systems services and the responsiveness of the system administrators is questionable when there are recurrent episodes of information deposited online gone missing. On another occasion, for example, students were asked to submit an assignment online but all the documents submitted disappeared, together with information concerning submission dates and times. Many students used this fault as a justification to submit their work after the deadline and this can never happen. There are no excuses for this kind of incident. It is a serious fault in the system and if things do not work properly at operational level, what kind of guarantees can be offered to

academics? This obviously creates a problem of mistrust if we remain unable to run a seamless system, permanently online and responsive to planned maintenance operations provided that prior notices are given with antecedence” (Q47:38:85).

Regrettably, the trustworthiness of e-learning collapses under the disruptive effect of data loss incidents, which are not as infrequent as desirable. As a consequence, academics voice criticisms against the absence of a sufficient caring culture with respect to data integrity, data protection, and data governance:

“I think that the management is trying to mainstream a common platform that all different Faculties can use. But that will always have to be developed by the Engineering Faculty, which is where the technical expertise and capability are located. In August we have been informed of possible disruptions to internet access because an increase on the bandwidth capacity was being prepared. We suspect that this is related to the development of the new e-learning platform, which would be the same for all independent faculties in the university. I know that the Faculty of Architecture has been using Moodle for quite some time, but the problem is that the experiences of use across the university were not harmonised. I do understand the technical challenge of establishing a common system but there are faults and failures that should never happen. It is not really acceptable that the platform remains out of use for one academic year. Add to this the fact that no one was really made accountable for the loss of all contents stored on the platform when it was discontinued. Not a single word was spoken then. Luckily I had backups of everything” (Q21:26:31).

Incidents of minor scope happen too, and academics are adamant to admit that the nature and consequences of recurrent minor episodes is of no lesser importance, since they escalate into almost irreversibly damaging e-learning systems’ reputation and credibility.

“We have been using Learning management systems for about 4 years now. From using WebCT we moved onto using Blackboard. But there were several problems with Blackboard, the date system was not accurate and compatible with the Portuguese format, which generated a big mess, particularly with students’ postings. There were people complaining they had posted something on a specific date and then there was no record of activity” (Q4:16:14).

However, the higher impact incidents reported and described by informants seem to be related to academics’ underdeveloped sense of the theoretical foundations that underpin learning and cognition online, which results in poor instructional design. One of the consequences of inappropriate expectations about what e-learning can deliver, is the misplaced (and naïf) hope that technology per se can solve problems or improve the learning and teaching experience:

“There are many mistakes being made in the e-learning models under development recently. I’ve chatted to some people and what they are doing in terms of instructional design is atrocious. I know for instance the case of a particular university that created an entire course online aiming to recruit 150 students, which is just too much for a first go with e-learning. I know through some students who attended it and through some of the tutors that the experience was a disaster” (Q3:31:60).

In fact many of the reported problems affecting online learning environments is academics’ tendency to reproduce the traditional classroom approach into online applications:

“Then at some point and against the usual rules we managed to create and run a module entirely online. I was never in a face to face context with students and that was a disaster for several reasons. I think that the problem was that the cohort of students was too

heterogeneous and that is difficult to understand in early stages when teaching develops remotely. It is also difficult to become aware that students develop at very different paces. I hated that experience because I was never able to establish any affinity or rapport with my students. My status as the teacher was always the one of the distanced entity” (Q2:7:5).

Overcoming such difficulties entails understanding that the design of e-learning spaces requires a pedagogical paradigm shift and the assumption of models that support collaborative learning, authentic project-based activities and the intermeshing of formal and informal learning situations. The frustration resulting from the inability to respond to such requirements of the learning environment is not easy to overcome, as it can instigate self-doubt about the capacity to provide support for active learning through communication, collaboration and social negotiation:

“How can anyone manage students’ interaction in a discussion forum with over 80 participants? How is moderation feasible and how is monitoring of contents possible without a huge delay? For freshers in e-learning there are great expectations and a general enthusiasm that soon floods into a massive disappointment. The aspirations of successfully managing fora with such a big number of participants can only become a flop. Before starting developing e-learning one needs to think in pragmatic terms and realise how platforms are simultaneously powerful and dangerous tools that require a thoughtful use. There is enormous opportunity and expectational costs that should not go wasted because of a bad first experience. Then it becomes harder to bring people on board again. It does not surprise me that after a bad experience online academic revert to traditional delivery” (Q24:51:287).

4.3.1.4 Bounded rationality⁷

Bounded rationality refers to the difficulty academics feel in assessing risks and making fully informed inferences regarding e-learning adoption, when a lot of uncertainty regarding outcomes and impact on their professional standing is involved.

“Preparing or tailoring a course for online delivery is very hard work. Academics are comfortable with their tried and tested teaching routines, which they don’t want to break with. Why would they change?” (Q19:9:12).

Generally, academics make their primary decisions about e-learning based on readily available data and knowledge, which means that they do not have in-depth understanding about future consequences, being instead too attached to the typified face-to-face instruction procedures and to the benefits they grants them.

“I really don’t want anything too complicated in my job. I want things that make my life easier. If e-learning comes into play as a burden that makes things harder and if on top of it I actually take longer hours to prepare my teaching, I say ‘no’ to it. If all my life I’ve done things differently and it worked out well, I do not feel the need to change. Any sense of need and any interest in developing e-learning should arise naturally and spontaneously from within” (Q6:28:51).

Gaining full understanding of the future consequences of e-learning adoption is a very difficult task due to what academics frame as the unpredictability of e-learning’s outcomes and the uncertainty of its benefit and utility. As a consequence, academics’ understanding of the causal factors involved in e-learning adoption becomes ambiguous, and this uncertainty reverberates through the decision-making process.

⁷ The term is employed in the sense originally proposed by Simon (1976:40-41, 241) to describe the bounds that limit the human mind and individuals’ decision-making capacity, namely the interplay of skills, habits, values, conceptions, information processing and the convergence/ divergence from organisational goals.

I would say that some years ago the pressure on academics trying to make them adopt e-learning was a lot higher. Some went with the flow and started doing some very basic activities online. Now things are sort of stabilised because a significant amount of academic staff that was very reluctant started making a rather superficial and fruitless use of the platforms. Most of these academics are very fearful, they fear that their engagement with e-learning will consume their time and increase their workload to unmanageable extents. Some of them may even think that there is no significant gain with e-learning. For those the costs of adoption seem too high and overcome the perception of benefits. (Q8:44:72)

Academics have a difficult time trading off one goal against another when making a choice regarding e-learning, especially when they derive uncertainty or a significant loss from their calculus, even if the criteria that inform their choice are incomplete.

There is an issue of perceived organisational unfairness that is easily understandable. Why on earth would I bother with teaching online, which requires a lot more effort from me, if my peers who do not do it have the exact same salary and benefits and may even progress at a faster pace in the career ladder. This is an invitation to inertia because the other option is to be an enthusiast of e-learning at my own expenses, which means I can jeopardise my career ambitions. I do believe many academics confront this dilemma. (Q4:29:34)

Academics propose that HEIs should develop clear organisational goals to follow, which would act as value premises that underlie decision-making by communicating desirable ends, performance standards and an inviting reward strategy:

The rules of the game ought to be changed. And the reward system should be rearranged in order to compensate academics for

investing in incorporating technology in their teaching. If there is no consequence in terms of career advancement, teaching will always remain the ugly duckling. And it is undeniable that e-learning entails effort and the development of a new professional profile that requires a certain degree of qualification. If the reward structure remains unchanged, academics will naturally prefer remaining attached to their comfort zones, teaching on campus as they have always done, mostly because it saves them from a big hassle. (Q29:17:28)

This points to the importance of specialisation, routinisation and the establishment of standard procedures as a means to support academics' rational decision-making when contemplating the adoption of e-learning, because it capacitates them to perform more informed decisions.

4.3.1.5 Reputation risk

Reputation refers to the properties and evaluations ascribed to individual academics (or groups of academics representing the wider professional group), which confer them symbolic status and power. The significance of reputation as a kind of symbolic capital derives from academics' relational position, or in other words, the availability and dissemination of information and evaluation about behaviours and attitudes towards e-learning. This information is varied in its nature, but it mostly refers to academics' incorporated skills and professional qualifications, their ability to produce cultural goods, or the possession of some sort of competence that is valued by the learning and teaching community. In this sense, reputation generates collectively shared beliefs that guide the expectations and choices of other agents in the context of HEI. By operating as a sign of importance and source of legitimation for the possession of desirable characteristics (e.g. an honourable behaviour that should ideally be mimetised), reputation grants its beholder power and status.

Reputation is enabled, enacted, and transmitted through social interactions and communication. In the specific case of e-learning, it is objectified in the form of particular properties (e.g. increased visibility through web presence, facilitation of educational content through VLEs, strong use of social media applications, etc.), which become prestigious attributes of the competent academic. Ignoring these attributes of the perceived competent academic emerges as a reputation risk of large social scope, as it may reduce both the social esteem and the prestige that academics traditionally enjoyed:

“There is clearly a social pressure towards incorporating technology into teaching. Academics feel it. But there are a lot of people who mistake the integrated use of technology with using PowerPoint presentations at the lecture. There is also growing pressure lead by the students themselves. This is parallel to the idea that if you don’t have a web presence you don’t actually exist. An academic without a strong web presence, translated in the availability of instructional resources and other documents is non-existent. And we know how reading online is growing fast and conquering shares of the traditional print market” (Q33:3:9).

Concerns about professional reputation become an issue due to the frequent communication of attributes and informal evaluations of academics’ behavioural properties. An academic who conveys the image of techno-phobia and who resists adopting e-learning will have their reputation flamed, as a consequence of the judgment and evaluation from students and techno-enthusiastic colleagues, who expect a different type of technological proficiency from the competent academic.

“I would say that in the current context, no student is happy with simply attending lectures and sitting examinations. They demand more from the education providers, they want a different type of learning experience. The student of today is more demanding and that is a good sign! The students of today get to Higher Education after having already experience educational technologies in previous

levels. They all know how to use social networks, e-learning platforms and different social web applications. At university level they expect higher levels of complexity and greater integration of technology in the learning and teaching experience. I actually advocate that this should have an impact on the evaluation of academics. Who can be a better judge than students themselves?" (Q40:10:31).

Because academics obtain information from peers and students - sanction and disapproval in case of resistance to e-learning adoption - they become capacitated to evaluate their position. In turn, this may lead to changing beliefs and practices and, consequently, to adaptations in behaviour, which becomes more inclusive of educational technologies.

"It is more and more regarded as unacceptable that an academic comes in and says "I won't just use email" or "I will not use the platform because I am not to be told by students what to do". My position is antithetical to this. I think students have to be listened to and respected in their aspirations. Sadly throughout my career I witnessed episodes of incompetence that should embarrass by colleagues and that should never happen" (Q34:34:55).

Accordingly, change in behaviours and practice, reflecting a growing interest in e-learning as a by-product of students' pressure was a frequent theme across interviews, with several informants reporting being knowledgeable of cases in which colleagues felt obliged to gradually incorporate educational technologies in their teaching practice as a response to students' requests:

"I would say that most of the academics I know started using e-learning after being subject to a strong push from their students. If students experience one module in which the teacher uses the e-learning platform, then they'll start complaining about teachers who don't use it and nagging them until they give in. So teachers are

almost cornered, they are impelled to use educational technologies by the students themselves. This is good because it forces them to understand the structure of online delivery and then they can more easily align their teaching to the demands and aspirations of students. Actually, it became very common in lectures to have someone asking the lecturer when the slides will be available online on Moodle or Blackboard. I now think that academics' negative stance towards e-learning is not well regarded and even not tolerated by students, who by force of persistent requests will persuade academics into understanding its benefits and convince them to respond to their needs by making use of educational technologies. They can start with an unsophisticated use at the repository level, and then gradually move to more complex solutions" (Q48:8:11).

In some cases this change in behaviour propelled by students' requests does not occur without doubts or inner conflicts. Nevertheless, the fear of losing face overcomes resistance, particularly because the competition amongst colleagues is an open invitation to consider adopting e-learning in a more serious and consistent way:

"There are many episodes of cross-fertilisation in which academics were impelled by their students to change, to ask help from more technologically proficient peers that could assist them in transitioning to e-learning. They had to swallow their pride and ask how to use the platform because students were insisting so much. This tells us that many issues of technological illiteracy are still manifest amongst some academic staff. But it is surely declining as academics start comparing their teaching practice with that of their peers. And then they can be driven by competition because no one likes to stay behind. But overall it is undeniable that students are pushing this change by force of their requests for a more systematic use of the e-learning platforms" (Q31:11:14).

4.3.1.6 Increased visibility

E-learning puts academics' instructional design decisions on the spotlight, because there is a comparatively higher transparency of processes as opposed to the opacity of classroom-based instruction, where the authority of lecturers and the suitability of the instructional activities were rarely externally observed or institutionally challenged.

“In my opinion this enhanced visibility and exposure is an inherent risk of e-learning. It can be framed as a danger by some academics. I would compare it to using the credit card for online transactions; we inevitably know that we are exposing some personal information. We know that it is not an entirely secure transaction, we think about it twice but then we give in because there are so many users out there. So with e-learning academics will initially resist, then they will have to prepare themselves and adjust. Later on, they'll have to accept this new reality and conform to it because from that point there will be no way back. We no longer survive without cell phones in our daily lives. So we will not be able to teach without educational technology” (Q38:15:40).

In practical terms this means that traditionally there used to be very little accountability of academics as key decision-makers in the process of translating principles of learning and instruction into plans for instructional materials and learning activities. In other words, an academics' practice of design, development, management and evaluation of processes and resources applied to learning is not subject to discussion or criticism.

“Greater visibility represents greater scrutiny of teachers' performance. It also means that any frailties become more salient. There is also the issue of being fearful about losing control over what

is known and transferred into online contents that become a separate entity” (Q7:26:41).

The reasons for this opacity in teaching practice are related to dominant conceptions of the academic as content expert. Presentation of content is based on authority. In this framework, pedagogical content knowledge is secondary and instruction is mainly conceived as a process in which the subject matter expert is the provider of input, acting on the basis of personal experience or gut instincts, rather than being informed by theories of learning.

“Enhanced visibility forces academics into becoming increasingly concerned with the quality and rigour of contents. In traditional delivery everything happens behind closed doors, and the dominant medium is orality. This has different implications because a not so knowledgeable teacher can master oratory skills even when his or her knowledge foundations are not the most solid. When the formalisation of knowledge for transmission implies producing a learning object, when there needs to be something written, that is when the pedagogical praxis comes into play” (Q3:26:53).

E-learning introduces a new idea of professionalism, aligned with increased visibility and accountability of the teaching practice. This is so because teaching online implies manifesting a deep understanding of how to structure and present the subject matter to be learned, and translating this understanding into clearly articulated decisions covering aspects such as how materials will be presented, which learning activities will be used, or what kinds of feedback will be provided.

“Naturally academics are more exposed online. But this openness holds important benefits such as the possibility to collect and incorporate the contribution of other experts and individuals who work in similar fields. And the interaction with a diverse range of opinions and suggestions that promote collaborative construction of knowledge and that help to build communities” (Q4:19:16).

The fact that learning materials and their contexts of use and interaction develop online imply a concern for academics' own actions, because all that is said and done imprints a retrievable trace that lives beyond the moment of utterance. Academics that are less confident about the quality of their teaching tend to feel uncomfortable about this:

“I tend to believe that the greatest obstacle to the newcomers to e-learning is a lack of self-confidence, which leads them to failing to recognise or acknowledge the real advantages. It is not a matter of lacking the technological competence because the use of platforms is almost intuitive. It is a matter of self-confidence, of being assertive and confident in their teaching practice and in their pedagogical model. For some academic staff it is still difficult to reveal themselves, to share their teaching publicly. There is a lot of shyness whereas the adoption of technology requires of them being extrovert individuals” (Q14:18:28).

In extremis, some of these introverts – feeling vulnerable and being unable to acknowledge changes in the learning and teaching encounter - become the most avid e-learning resistant:

“(…) my view on this issue is quite clear and it is related to the basics of human psychology. The more aggressive individuals are generally the ones that need to conceal their weak spots. So, in establishing a comparison to e-learning and academics, the staff that is more conservative and repeatedly tries to limit access to contents and interaction with students reveals the lowest levels of self-confidence. If they were sure about the quality of their work they would not fear being vulnerable because of increased exposure” (Q48:38:65).

What is problematic is to distinguish the impact of the perceived increased visibility on either accountability or on a renewed sense of professionalism. Because accountability may mean academics' ability to justify instructional actions and decisions to an agency or

institution, whereas professionalism entails making such decisions and judgments on the basis of sound pedagogical reflection and knowledge of the disciplinary context in which they operate.

“Being comfortable with using e-learning implies being confident and careless about what others may think of us. This is synonym to openness and it entails the willingness to expose our work and our personality. For many of my colleagues it is indeed a problem to make educational materials and work related documents available to public scrutiny and to the critical eye of peers. That has never been a problem for me but I am aware that it is a significant barrier to many of my colleagues” (Q14:4:6).

Increased visibility manifests itself, for example, on the choice of appropriate learning activities online, and on academics being assertive about the merits of the strategies employed because they are meant to bring learners from the state of not being able to accomplish a certain task to being successful. Deciding when a computer simulation is better than a group-based discussion in a forum without moderation is an instantiation of such choices, but the metaphor of e-learning as a theatre play – advanced by one of the interviewees - exemplifies how the fear of exposure engenders inner conflicts:

“I compare teaching online to directing a movie or being the producer of a theatre play. To teach in traditional terms inside a lecture theatre all that was required was knowledge of the script. In the movie you need to rehearse and make several attempts until you reach the desired result, which should be near perfection. E-learning produces a record of everything that is done online, so there should be a more acute concern with quality. In face to face teaching our quality concerns are focused eminently in the prior preparation of contents, because we know we can reuse them. Also, if you make a mistake during a lecture, you can correct it immediately because it is live interaction. With e-learning and in particular with asynchronous

online activities, there is a fixed record of everything that develops online. This may generate a problem of confidence in the individual capacity of the academic” (Q17:7:25).

Being traceable online, academics’ instructional design decisions invite external observation and consequently they promote an open and shared understanding of the common difficulties that learners may encounter when learning a particular subject matter, as well as of instructional strategies that are (or not) in place to address specific learning needs. Many academics regard this as a potential threat, despite the fact that teacher identity is contextual and therefore linked to experience and participation in specific activities.

“It is easily understandable that the nature of educational contents that will be published online needs to be more refined and of a greater quality. The intervening agents also need to be very careful about what is contributed to online discussion fora and a principle of rigour should preside. This is mainly because an academics’ credibility would easily be eroded should he or she publish unverified or academically unreliable information” (Q38:13:36).

Most of these concerns are linked to the issue of ownership and intellectual property of online educational resources. Some academics feel that creating and selecting curriculum resources and aligning them with technology-enhanced learning activities is a singular effort and that it is not proper that third parties benefit without effort from the information, activities and processes that contribute to their students’ acquisition and synthesising of disciplinary knowledge, or solving of problems that are unique to their modules.

“Some academics have ridiculous concerns about making their educational materials available online. They seem extremely uncomfortable with the thought of having their peers, particularly from competitor institutions accessing their materials and confirming that they are in fact of inferior quality after all (Q50:34:53)”

4.3.1.7 Leakage of confidential information

Information security in e-learning is a challenge that several informants have addressed during data collection interviews. Although functionality and security threats to e-learning have common features with other e-services, the protection of teaching and learning information online – mainly the information collected in learning management systems - ranked high in the list of concerns advanced by academics. A frequent perception manifest across interviews was the idea that a secure and safe e-learning environment requires availability (assurance that the e-learning environment is accessible by authorised users whenever needed), integrity (protection of data from either accidental or unauthorised changes), and confidentiality (protection against unauthorised access). Failure to fulfil these criteria will consequently have a negative impact on e-learning users.

Reported episodes of e-learning systems' failures were typically a compound of disclosure of confidential information, fear of third party unauthorised access to administration interfaces and configuration stores, and insufficient accountability concerning which individual's access sensitive data in storage:

I am not embarrassed to say that I have withdrawn the use of e-learning. I feel that e-learning platforms are increasingly used as information repositories and that makes me sad. I gave up because the platforms fail to ensure the level of security and confidentiality that I consider essential in my teaching practice, in particular student assessment. It happened to me experiencing the appearance of screens with HTML code. That is not a safe system. This has happened on several occasions, which means that a student can easily crack the system and gain access to assessment pieces. A system that features such breaches cannot ensure that in any circumstance had students access to contents that should remain inaccessible to them. I reported the problem but I remained unsure as to whether or not it had been fixed. There were simply no

guarantees of confidentiality about access and management of the system. So to avoid being fearful all the time, I decided to no longer use the university's system. Alternatively I created my own system, hosted in my personal website. **(Q9:9:10)**

Insufficient protection of confidentiality, integrity and availability by means of encryption has also been reported, which points to the need to ensure that data is encrypted before transmission through public networks and only readable by the intended audience.

Another situation that has made me wary was realising that one of the persons working in the Computing Services and with a direct responsibility in the administration of the e-learning system was actually a student of this institution. How is this possible? How can I rest assured that any type of material that I upload onto the platform is encrypted enough that it does not become accessible to third parties? This was so distressing to me and not being able to know for sure that the systems administrator had no access to my encrypted data prevented me from continuing using the platform. I don't trust the administrator. This is a very sensitive issue. I cannot just carry on and pretend that nothing has happened **(Q9:33:37)**.

Academics' insecurity about data confidentiality was also expressed in the criticism targeted at the structure and content of information security policy, which informants describe as limited in scope, and unable to deliver enough privacy for e-delivery and collaborative education. In particular, respondents feel that feedback and control rights of online learning participants need to be given proper attention.

I also realised that sometimes platforms expose confidential information that should remain solely under the strict control of the teacher and the student on a dual relationship. Making it accessible to third parties without any reservations poses many ethical challenges that actually concern me. And most of the times neither

teacher nor students realise that something wrong is happening
(Q12:35:41)

4.3.2 Structural-organisational assurance: Strategic level

Strategic barriers to the institutionalisation of e-learning are associated with leadership deficiencies at top management level. The lack of management skills is mainly visible in the existence of poor intra-organisational communication methodologies, and in the inability to make the necessary changes in policies and practices that are required to implement new work routines. On the one hand, a *laissez-faire* management style fails for erroneously assuming that systematic implementation will spontaneously let e-learning find its way into organisational practice. On the other hand, advocates of vertical implementation fail to acknowledge that the innovative structures, processes and practices associated with e-learning cannot be brought to life in the face of imposition. What follows is a detailed description of these barriers.

4.3.2.1 Fear of administrative control

The prospect of surveillance through the use of e-learning systems - such as virtual learning environments – to monitor or predict academics' behaviour by means of visualisation, collection, and processing of personal characteristics, is a source of discomfort to several of the academics interviewed, and it has been referred to as a potential source of mistrust.

“The scenario of a tighter institutional control is real, but I do hope that the different levels of management resist the temptation of surveillance because it would have the opposite of the desired effect. Academics would not feel comfortable realising they were being so closely monitored, that would condition their behaviour. (...)

Those in the position to manage and administer e-learning systems need to have a strong ethical posture, and an acute professional awareness that separates public and private domain. When academics upload contents onto an e-learning platform they do so believing that it is a private domain and that there is some safeguard of their production. They trust that their interaction with students will fall under the same privacy we can find behind the closed doors of a lecture theatre. Opening all that up is an entirely voluntary decision” (Q36:39:82).

In the first place, shifting educational content online - and therefore altering the accountability regime - is not a peaceful topic, with many academics expressing their dissatisfaction with having being forced into operating this transition.

“I actually felt disrespected for a direct interference in my autonomy and in the design of my teaching and learning activities because I was forced to cut the number of campus-based sessions, because the module I coordinate was officially transformed into a blended learning module” (Q1:32:38)

There is also the issue of shifting from overt and external to internal and preventive (self-centred) forms of proactive control over what is actively input online. Furthermore, leaving a trace of online activity makes several informants very concerned about the possibility of institutional surveillance:

“What I don’t like about e-learning is that there is a written trace, a record of everything that is done online. The dialogic dimension of face-to-face interaction is lost because the teacher-student relationship is mediated by applications such as fora and chats. These applications have tremendous monitoring and control systems embedded in them. There is a very tight control from the institution

over what academics do because there is a record of everything”
(Q1:26:39)

In fact, virtual learning environments record every click by a user within a course, generate graphical reports on course usage and activity. These reports can easily be accessed through a performance dashboard that displays identity course access data, discussion board posts, and weekly contents. In summary, the software allows the automation of collection, storage and display of academics’ interaction and performance data.

“I can know how many times a teacher visited the e-learning platform and for how long. And this data can be transformed into some classification item, which is just unfair. We are all different as human beings, we all function differently. Some of us need to sit by the sea for two hours before we are actually able to return and produce a magnificent creation. So creating evaluation metrics based on time presence seems illogical to me” (Q34:13:23)

Capturing all of this activity online through a network of data surveillance is interpreted by academics as a form of invasion of privacy, which may destabilize social relations inside universities by altering the previously standing regimes of visibility and introducing uncertainty.

“Of course any course coordinator can access all restricted areas of the different modules and therefore monitor the activities of their colleagues. I would say that this was the last reserve of academics and now it is being invaded and scrutinised. I think there is a whole lot of people who are now uncomfortable because they have to share what they do and, more importantly, what they haven’t been doing with their students. This very idea is very uninviting for many academics. It means more exposure and many academics refuse that. In this institution some of my colleagues have refused to use Moodle for that reason (Q6:21:39)”.

It induces high levels of stress, produces lower levels of job satisfaction, misleads academics into emphasizing quantity over quality (systems will typically value what is counted and use such measurements as standards of performance) – a collection of consequences that contributes to an environment of mistrust and suspicion:

“when academics’ attendance is controlled online on an equal footing to students’, and when all of the traditional academic administration tasks such as grading is migrated online, the very power of controls is transferred into the hands of management by the capacity of informatics” (Q27:18:48).

4.3.2.2 Lack of a clear mandate for implementation

Academics expressed deep dissatisfaction with HEIs decision-making authorities’ inability to exercise the skills of influence, in such a way that the ideas sustaining the implementation of e-learning are not communicated unambiguously. The outcome of this is a poor articulation of objectives and consequently a generalised failure of institutions to generate commitment around the value of e-learning.

“It is obvious that the university must provide evidence that it has a strategy. However, instead of imposing that strategy, it must go on to the field and dialogue with the academics who already experiment with e-learning. Those academics and their experiences need to be nurtured and supported for their will act as role models. We need to support individuals in this transition, help them devise didactic strategies for online delivery” (Q30:24:45).

Most interviewees felt their institutions failed at employing adequate methods to inspire and guide academics toward goal achievement, or to help the more recalcitrant staff

modifying behaviour to accommodate the new situations and tasks required and introduced by e-learning.

“To put it metaphorically in religious terms it is as important as an official consecration of e-learning, the institutional assumption that it works as well as traditional face-to-face delivery. This political act is important to move on to concrete implementation projects and will help change the attitude of those who resist” (Q43:31:50).

In general terms, academics criticise HEIs problems with establishing rapport, developing ideas, acknowledging concerns or checking for academics’ understanding of what is required to effectively appropriate educational technologies.

“The institutional affirmation of e-learning requires a solid support from the management to ensure that in the implementation stages there is wide collaboration and the participation of academics. But a strong push from management is essential at the outset” (Q27:12:30).

According to the evidence collected from interviews, the absence of a clear mandate for implementation is expressed through ambiguity surrounding e-learning goals and tasks, which academics would willingly replace by the values of goal clarity and task clarity.

“The existence of an action plan or an institutional script guarantees that there is a support structure in place, regardless of individual adoption initiative. An institutional roadmap for adoption means that the whole institution is ready or at least committed to facilitating the use of educational technologies by academics. It means, in very practical terms, that academics are not alone” (Q39:4:15).

The currently unattained goal clarity refers to the ability of universities to define exactly what e-learning appropriation is expected to accomplish. Furthermore, a lack of clarity regarding what exactly academics are supposed to do with e-learning will increase perceived levels of job complexity when only its opposite can facilitate the adjustment of academics to a new reality and ensure that they focus on what they are expected to do.

“I think we are way past the time of voluntarism. The time of e-learning utopians is bygone and what we need is political strength sustained by openness to dialogue. Only then can the management of HEIs define the pathway to e-learning adoption, informing all stakeholders of the necessary learning curve and of all costs and benefits” (Q29:13:20).

The availability of more information about the type and nature of rewards linked to e-learning adoption, as well as how this influences the evaluation criteria typically applied to appraise academics’ performance would also contribute to increased perceived levels of goal clarity:

“Such decisions need to have the approving stamp of high level bodies. They are the ones with the capacity to create a context for e-learning to work. Otherwise, what we are going to have is e-learning experiences blooming like mushrooms after the rain in one or two departments. The problem with these is that they survive as long as there is excitement or seed money. Afterwards they leave no trace and they very hardly cross-fertilize practice. E-learning will not live on if it does not penetrate the structure of HEIs, in the sense that it should be added to the institutions’ routines and operating mechanisms. Otherwise there is no structure of incentives and consequently no demand” (Q24:41:217).

Another allegedly obscure area refers to e-learning tasks, since the adoption of e-learning implies work-role transitions, and the management of HEIs is not providing enough guidance

on how teaching and learning are to be effectively accomplished online. Confronted with an expectation void, academics fear to be trapped in a cycle that reinforces the perceived complexity of e-learning, and that makes the decision to adopt seem very complex:

“A very visible intervention from management may bring an appealing feeling of directiveness and a pursuit of clear goals, but this needs to be adjusted to individual cases, because every academic has their own working rhythms. Regulations need to be negotiated and adjusted to specific situations but a strong initial directive that sets the tone and exemplifies goals with examples of excellent practice can indeed help convince those who are less confident about adopting e-learning” (Q16:8:29).

Finally, a clear mandate is also understood by academics as pivotal in reducing role ambiguity and role conflict, which should help academics operate the transition to the requirements of teaching and learning online.

“E-learning mainstreaming is a political issue and for this reason it necessitates absolute political clarity from the management of HEIs. Intention is not enough, just as symbolic acts are not enough because in that case the adoption of e-learning is entirely dependent on individuals’ will. E-learning adoption requires resources, human and technical infrastructure in place and all the means that ensure a collective learning dynamics. Only when all of this is in place can academics tolerate being asked to appropriate learning technologies. If this path is not walked through, if this investment is missing and this scaffolding is absent, e-learning in HEIs is not possible”(Q3:14:25).

Additionally, there is reason to suggest that the lack of clarity regarding e-learning goals and mandate as expressed by interviewees is potentially a source of conflict and, all in all, it is inimical to the development of professional cohesiveness.

4.3.2.3 Inconsistent organisational strategy

The failure to take firm decisions is a frustrating and demoralising experience for academics and a costly exercise for HEIs. An indecisive management can create an environment of confusion and uncertainty, particularly in high workload situations.

“I do realise that there is an unnecessary duplication of effort and processes. There are no clearly defined boundaries or rules that limit the activity of e-learning and the result is chaos, which jeopardises a sustained approach to promoting educational technologies in practice” (Q16:1:3)

Indecision can compound anxiety and stress for academics undergoing the change associated with e-learning adoption. Organisational change is stressful because the outcomes are uncertain. When management is indecisive and decisions seem inconsistent, academics are more likely to resist innovation.

“From my experience and from what the several episodes that happened to me, the e-learning strategy is ambivalent. On the one hand there is an enormous instructional pressure to use the system. On the other hand, there is a series of shameful episodes. At this point in time I can't even tell you which platform this university is using. We started using one system and halfway through the process they forced us to change. And there is yet another system which is used exclusively to release the grades for students' assignments. As long as there isn't an integration of all operational functions in a single environment and as long as that system is not stabilised, my opinion is that no one can be forced into adopting e-learning. I

simply refuse to be this university's guinea pig. The impression I have is that we don't get past amateur experimentations" (Q9:28:32).

Feelings of directionless and disappointment exacerbate when academics believe they get inadequate guidance or confusing edicts. Accounts of discontinued e-learning projects across interviews were not infrequent:

"Some projects start, many others come to a closure. Most of the times the reason is the lack of funds to carry on. Some projects here benefitted from governmental funding – there was a programme dedicated to the e-learning infrastructure [POSI – Operational Plan for the Information Society] but it was discontinued and the funding flow stopped. It is a shame because we achieved remarkable objectives, particularly with the equipment of remotely controlled laboratories, which allowed the automatic generation of reports" (Q33:18:22).

This points to the importance of the decision environment and to the complexities involved: the collection of information available, the values, the preferences, the alternatives.

"The problem with emergent pioneering adoption is that there is an institutional framework missing to give substance to all the isolated experiences. These isolated initiatives are very difficult to escalate and give rise to global e-learning solutions" (Q5:8:3)

Decisiveness as an alternative to ambiguity and inconsistency in action introduces a much desired clarity in action, instilling a sense of purpose in the workforce. It is furthermore associated with other positive attributes such as organisational commitment, proactiveness, and conscientiousness. However, informants refer the existence of an opposite reality:

"with the exception of the group I am part of, I don't see anyone else in this university who is actually able to lead the process and guide

academics into transforming their static contents into learning objects that are suitable for e-learning platforms. There are a few individuals here are there, who are comfortable with technology and who led some experiences in their courses, who have a few resources published online together with every session's lecture minutes. But nothing further than that, which I consider to be a very weak approach to e-learning. It does not go anywhere beyond being a content repository" (Q36:24:50).

HEIs' management indecisiveness can create an environment characterised by high levels of uncertainty, leading to academics feeling unsure about priorities and unable to engage in productive work, which create job stress.

"The technical administration of the e-learning system is under permanent revision and transitions between specialised departments. It is a problem of attribution and assumption of a new role at institutional level. E-learning has already been affiliated with the technical services department, then with informatics and communications and now there is a dedicated service. I cannot be too specific about the decision making process but I can assure you that there are frequent changes that are not adequately communicated. From time to time we get news and we are informed of either a sudden change that has just taken place or of the need to change yet again" (Q14:37:63).

These problems are usually compound by a lack of support towards execution, inability to timely communicate decisions, and no shared or communicated vision and goals. This became apparent as several informants criticised their institutions' intentional opacity and insufficient information sharing, particularly when specific government-sponsored e-learning policy - materialised in specific contracts and agreements - is virtually omitted:

“As you know I am a teacher here, and actually I am in very good terms with the Rector. Interestingly, that information about the trust contract hasn’t reached us. Perhaps the signing of those contracts was merely symbolic. What I can tell you is that I know that the contract has been signed 9 months ago and from the political point of view, it was a wonderful gesture, almost iconic. In terms of practical consequences, the academics haven’t been informed of any impact on the workload allocation. And to be perfectly honest, I doubt that there will be real change in practice” (Q17:25:99)

Essentially, HEIs’ inability to generate inclusiveness by operating transparently has been summarised by one informant as the untackled human dimension:

“I am very sceptical about a very important issue in any institutional strategy, which is the human dimension. The “people” factor is absent from the strategy, as much as the organisational context or important cultural aspects. Universities are traditional institutions. They have a culture, a context and a body of human resources that has been working under very stable rules. The prevailing learning environment was formalist, classical in its design and relying on the lecture as the only valid model. How can we easily transition to online delivery without thinking of culture, people and context? How can we even aspire to widespread adoption if e-learning represents the materialisation of something that many of us thought was only possible in scientific fiction, only a few years ago?” (Q21:15:14)

All in all, a general absence of information hinders the opportunities for participation and enhanced working relationships, and it ultimately undermines trust in management.

“The problem with e-learning adoption is an aggregate of many layers. There is insufficient trust, and a lack of institutional support and recognition. All of this is played at organisational level.

Universities as organisations fail to generate commitment around e-learning because they fail to identify and pinpoint its added value to academics” (Q50:32:41)

4.3.2.4 Misalignment with educational strategy

Having been prompted to reflect on possible institutional strategies that could contribute to mainstreaming e-learning, many informants agreed on the role played by Learning and Teaching Strategies, in the sense that they could provide the strategic framework for the development of teaching and learning across HEIs. Learning and Teaching strategies would articulate institutional actors’ aspirations for the direction of teaching and learning activities, and provide a framework within which Faculty and Departmental strategies could be developed.

Despite the level of critical reflection displayed about the role of Teaching and Learning Strategies, these instruments have been consistently described as being largely absent from the operational routine of HEIs, even if strategy groups such as the Pedagogical Committee or the Scientific Committee do exist across departments.

Although missing, an articulate Learning and Teaching Strategy is perceived by informants to play a critical role in defining the synergies between research, teaching and scholarship. The fact that such linkages are not currently documented across most HEIs as institutional policy is a symptom of a weak collective ethos, or to great extent a manifestation of HEIs’ inability to use individual culture and characteristics as differentiation factors in the current climate of competition for students and decreasing public funding.

On several instances though, academics mentioned the European Union-wide Bologna process as some sort of missed opportunity to gauge the effects of a more student-centred provision of teaching and learning. This transition offered plentiful opportunities for the embedding of e-learning in traditional face-to-face instructions, yet academics had to manage the associated risks and opportunities individually:

“I would say that Bologna is the main reason why I decided to go for a blended learning delivery design for my module. I consider that there is a perfect fit with an educational paradigm that encourages students as active builders of their knowledge. In this department, Bologna implied the transition from an annual regime to two semester, so that had a big impact in the curriculum structure, and one of the ways I found to expand the teaching presence was to create learning activities online, in particular discussion fora. But there is a coincidence of instructional objectives and a match between e-learning and the type of training we want our students to experience, namely the experience-based acquisition of argumentation and discussion skills, confrontation of ideas, critical analysis, reflection on learning against theoretical frameworks, etc.”
(Q51:2:4)

Thinking more widely about how pedagogical change is made effective in their institutions, academics regret the absence of a collaborative ethos, a shared sense of pride and ownership that could sustain the development of a confident and responsive Learning and Teaching Strategy. Consequently, academics generally call for the institutional assumption of a trajectory for the development of teaching and learning activities, materialised in the design of professional development opportunities and in pro-actively recruiting staff that is pedagogically competent:

“E-learning changes dramatically the ways in which teachers relate to students. The role of the teacher is critically accentuated in fact, so it is only natural that the pedagogical concerns should be increase to ensure educational quality. For this reason I think that the newly admitted academics should undergo pedagogical training. Part of this training needs to devote special attention to online pedagogical strategies. And perhaps the capacity to integrate technology in teaching should become fundamental person specification criteria when hiring new staff” (Q40:8:26).

Despite the pace of change, informants consistently referred to the absence of a cohesive strategic direction, as there is commonly no effective review of departmental teaching and learning and no central academic board proposing activities or drafting implementation plans. There is nevertheless some agreement concerning the desirable mandate, attributes and areas of influence for such instruments, namely the advancement of activities that translate the commitment of institutions to excellence in teaching, the attainment of the highest standards of achievement for students, and the recognition of teaching and learning the mission of universities as global key players.

“In reality the definition of a teaching strategy and whether or not it comprehends the use of e-learning platforms is a decision left in the hands of academics. I do think that it would make sense to define institution-wide teaching strategies, although it could not be too rigid, as to accommodate disciplinary diversity and individual sensibilities. Course and module needs are varying, so this goes against the idea of an inflexible teaching philosophy. But this principle does not contradict the possibility of any institution issuing guidelines or incentive to accelerate consistency between e-learning adoption and quality in online practice” (Q44:34:48).

Another shared concern is the realisation that universities do not acknowledge the need to invest in appropriate central support structures that encourage and invigorate teaching excellence.

“we are clearly missing a strategic alignment between an institution’s vision about what teaching should be and an e-learning programme that is responsive to the teaching and learning objectives outlined. Universities are stuck on a very primary stage in which the objective is to gain academics’ motivation” (Q20:29:45).

This compounds HEIs’ failure to develop models of excellence in teaching and learning, and

to advance the international agendas on education for global citizenship. Departments and faculties are not encouraged to develop teaching programmes that challenge disciplinary orthodoxy, or to go beyond the traditional modes of delivery course contents.

“After years and years operating incontestably under the same model, all of sudden universities are confronted with a revolution and with several demands. It would be intellectually dishonest to say that universities are ready because the learning and adjustment costs are very high and the contexts to implement change are almost static. It’s been a flop so far and things don’t change by divine intervention or governmental decree. The same thing happened with Bologna. Degree plans have been changed, courses have been redesigned and modules too, supposedly to organise provision of teaching under the heading of learning outcomes. But in most cases the change was superficial and in practice we had a one year reduction in the duration of our degrees, which means that considerable competences that we used to request from our graduates have now been chopped out or very condensed” (Q24:20:71).

However, academics are also keen to acknowledge that the production of strategy cannot be spontaneous, rather deriving from the executive management’s initiative, or the specific action of a board that could produce and deliver it in consultation with different schools and departments, support services and the students association; and to monitor, evaluate and review the strategy and its implementation in conjunction with those groups.

“the alignment needs to be horizontal. We need to overcome the stage in which we would be satisfied to sporadically have dreamy, passionate teachers who decided to integrate educational technologies in their modules. Our institutional offer needs to be consistent and not fragmented. I have been defending this idea of alignment for a long time, but all I see is a multiplication of

epiphenomena and episodic cases of adoption. Without a coalescing educational strategy there cannot be a coherent e-learning programme” (Q45:61:90).

This is the case particularly with e-learning, with academics voicing their frustration at how institutions are careless about shaping policy that informs working with and developing new technologies, methodologies and approaches to teaching and learning.

“E-learning cannot be introduced blindly and cannot be taken as a panacea for the problems of quality in Higher Education, because it is not. It all depends on the contexts of use generated, on the intended learning objectives, and on the situations of interaction that are designed” (Q39:5:17).

It is not clear for many of the respondents how institutions signal that e-learning is a priority or the ways in which support to help departments and Faculties to capitalise on the potential of new technologies is deployed. The awareness that the use of online technologies is an essential component of the way in which students access and engage with the curriculum may exist in some academics, but many departments are still clueless about how to best harness the potential of technology to promote knowledge building and reflective, student-centred learning.

“The teaching staff needs to be refreshed to start anew with policies that can change radically the teaching paradigm. Unfortunately, teaching strategies are amongst the last concerns to ever being discussed at any university in Portugal. I have been an academic for over 27 years and I have no recollection of attending any official meeting or debate where a teaching strategy or institutional teaching philosophy was discussed (Q2:20:35)”.

A critical barrier mentioned frequently by informants is the lack of investment in comprehensive support for staff in the use of these technologies – particularly the kind of

support that is not casuistic, and that is aligned with an explicit, collectively owned teaching and learning strategy.

“The problem is not with technologies, it will every academic’s willingness to change their teaching practice. I would go as far as to claim that the technology is in itself irrelevant. Technology can only generate gains if there is commitment to changing the teaching and learning process. If that will is missing at institutional level, then e-learning can only be used as palliative care” (Q15:3:6).

Similarly, there is not a mature culture of sharing, and any potential teaching innovation that may exist is not adequately communicated. The establishment of educational development units is something several informants express as an absolute need, if staff is to be engaged in the enhancement of teaching and learning, in disseminating best practice, and in promoting a community of staff learners. Similarly, departmental directors of teaching and learning could occupy a pivotal position between institutional and local strategy.

“If you consult the proceedings of the Pedagogical or the Scientific Committee meetings you will not find any reference to an educational strategy. It is not a discussed matter, let alone the articulated integration of e-learning. And these are the competent organisational structures to discuss the matter. There is no internal discussion of these issues and when there is, it is because there has been external pressure. A good example is the trust contract signed with the government. Similarly, Portuguese universities’ compliance with Bologna was completely underdiscussed and it only became effective due to governmental pressure” (Q3:28:57).

The institution-wide definition of standards for the use educational technology was another consensual idea advanced in several interviews. Departments cannot really feel that they

are strongly encouraged to invest in enhancing their e-learning provision, if there are no institutional standards and an entity to monitor quality.

“There needs to be some kind of institutional instrument, it can either be a course or a common pedagogical script. When people are given too much freedom they end up doing what they believe is good, when in reality the consequences may not be that good. Educational technologies are a new issue. Academics are not familiarised with it. They need guidelines, but not a full recipe. They need a reference, because without a guide there is nothing they can build from, no example to depart from. Universities cannot risk promoting this emptiness, so they need to offer models, which can take the form of a basic guide that illuminates different approaches or different models of practice online. This can ensure pedagogical appropriateness, because the use of technology is informed by theory and best practice. It is like a transformation chain” (Q18:11:19).

Academics claim for more robust and transparent quality assurance processes that are able to demonstrate both the innovation and the rigour of online practice. They do not ask for bureaucratic processes, they want institutions to commit to dialogical and developmental quality assurance processes. A common perceived need is that departments address technology-enhanced learning in the terms of reference of teaching committees, and incorporate it explicitly in policy and strategy documents.

“Perceptual barriers that impede e-learning adoption need to be overcome one by one through transposing cultural and organisational layers that remain attached to old paradigms and to old practice. Change will only happen when e-learning is removed from a marginal position and brought to the core of academic practice, with evidence of its value and quality stated in policy, and with recognition of academics’ adoption efforts. Only then can e-

learning enjoy the much needed status of normality and stand on an equal footing alongside other activities that take place in universities, such as research. This normalisation process takes time and an open mind to get rid of all preconceived ideas” (Q5:21:19).

4.3.2.5 Turfism

Turfism denotes the inwardly focused individuals and departments where internal and external relationships are given insufficient attention, and where there is a pervasive sense of group-based self-protection to ensure the maintenance of parochial interests or the *status quo*.

“Academics are balkanised, divided and grouped in different sides of different barricades – one is from Engineering, another from Physics, and yet another one from Anatomy. What they all fail to recognise is that the pedagogical issues are common and that they in fact force them to depart from their usual field of expertise. It is not an easy task” (Q45:59:87).

The resulting overprotection of any organisational unit’s operation produces breakdowns and failures in communication, co-operation and co-ordination between other stakeholders within HEIs.

“My intention is really not to question the quality of those who at internal level are engaged in the design and delivery of the training sessions. But I think it would be a lot more advantageous from a learning point of view if we had the chance to contact with other realities, hear experiences from people outside this department, interact with other individuals and learn for their best practice. It would be like going out to clear our minds, breath new air, socialise

with new people. If all of us remain here, actually if I chose to attend the training here, 99% of those attending are my colleagues. I see them every day, there is not a hint of a renewed dynamics, and all of us will feel constrained because we see each other's faces all the time. This will inhibit us from putting questions and fears forward because on the next day those are the colleagues I will have to work with" (Q6:12:17).

As a consequence of "power games" and internal quests to "defend the territory" (Q45:42:57), different organisational units or different individuals representing different disciplines that should cooperate, pursue different agendas instead of working together.

"We have had educational projects in partnership with other faculties. The Faculty of Engineering is well advanced with their e-learning programme. But it is not easy, we all think differently. It is difficult to harmonise the different local cultures, which are excessively tied to fields of knowledge" (Q34:19:32).

Their behaviour and actions become fragmented and erratic because the mentality is divisive, which creates disjointed and disconnected ways of working.

"Any attempt of strategic alignment is globally nonexistent. Perhaps within disciplinary groups there are some attempts or evidence of people working together, organising materials for a module or helping each other. But there is not a wide articulation of needs and interests. Needless to say there are no guidelines produced by the management. At top level there is complete ignorance of what happens at local level in terms of e-learning implementation. The problem is that certain procedures and ways of doing things – perhaps not the most adequate or effective – have become encroached in practice" (Q14:21:37).

Nevertheless, parochialism is perceived as an adequate university governance administrative procedure and institutional design, particularly in what concerns teaching and learning strategies.

“Inevitably most academics feel that any teaching strategy, including e-learning, needs to be discussed at departmental level. It is up to each department to organise teaching provision. Each department’s ways have to be respected, which gives rise to the multiplication of *ad-hoc takes* on e-learning” (Q19:25:40)

This type of behaviour leads HEIs into falling short of making their best contribution to achieve a comprehensive, aggregate understanding of the needs of different departments and units, with an interest in the success of the global e-learning strategy.

“There are advantages in e-learning projects that develop locally and by the initiative of individuals’ personal commitment. The benefits lie with the enthusiasm that is attached to them, which makes them flourish since decision-making is participated broadly by intervening agents. I’ll give you an example from this university – our Law School, which one would initially relate to a more conservative approach to teaching, has a very successful e-learning programme. Nevertheless, there are problems and inherent costs associated to diversity. These costs are translinearity and lack of articulation with the organisational system within which it should be harmoniously embedded” (Q24:25:133).

Larger universities, in particular, have recently adopted devolvement strategies to facilitate management and administrative procedures of organisational units that not only are overpopulated by numerous students and staff, but also claim decision-making capacities.

“The new chancellor adopted a clearly federalist policy to govern this university, instead of a centralist approach. This means that every

organisational unit, every school and department is given complete freedom. What stems from here is that each unit has their own e-learning programmes and experience on the field” (Q29:30:56).

In most cases, however, it is the tradition of pedagogical autonomy that capacitates schools and departments to decide whether or not to engage in the development of e-learning programmes:

“HEIs live constrained by the operation of their semi-autonomous subunits, their idiosyncratic procedures and routines, their differing and contrasting realities. Different departments move at different speeds and in different directions, according to different interests and goals. This creates tremendous heterogeneity, including in the field of educational technology adoption” (Q24:39:197).

4.3.2.6 Lack of organisational homophily

Interviews with academics revealed a pronounced focus on the absence of sustained collegial ties as a barrier to effective e-learning mainstreaming, which associated with insufficient intimate supportive peer relations, is perceived to lead to the absence of shared normative principles and common approaches to e-learning appropriation and development. A misfortunate consequence is the prevalence of resistance grounded on individual preferences and disciplinary allegiances:

The implementation dialectics needs to be collegial. Otherwise it will be stopped by individual resistances that form uncompromising barriers. Nothing can be done against the culture of singularity and individualism that defines academics. The most senior academics are the most unbending, because they have nothing to lose and they can already enjoy the status they have achieved. At the same time they

do not care too much about the management's attempt to exert greater control over academic practice or even complain about the imposition of e-learning programmes. Their attitude will just be of resistance at individual level. In face of this scenario, I think e-learning implementation requires negotiation, the concerted effort and search for solutions that please everyone. The management needs to employ powers of political persuasion, whilst directing all the attention to reconciling the cultures, interests and singularities of different disciplines, academic departments, and academics (Q5:9:6).

As remarked by the previous citation, there seems to be a latent understanding that the extraction of educational dividends from the diverse pool of academics requires intergroup knowledge and information sharing, which depends on the existence of supportive peer relations. Yet despite recognising that supportive and cooperative peer relations can enhance HEIs' pools of human and social capital and contribute to broaden the range of perspectives considered in decision-making about e-learning, informants tend to agree that the spirit of community does not flourish easily:

“Paradoxically, universities are not traditionally the place for convivial interdisciplinary relationships. They fall short at fostering inter-departmental links and even between colleagues there is not enough interchange. Most of the times, even within departments, we are strangers to one another. For this reason, e-learning mainstreaming requires a developmental approach sustained by the creation of communities of practice in which academics come to learn how create fora and value students' participation in online environments. When it comes to teaching and learning, academics share a repertory of practice, their concern is shared, and their objective is students' success. Communities of practice are the ideal arrangement because they are a meeting point where someone's questions can be answered by someone else's knowledge and experience” (Q50:15:14)

As a consequence of lacking a normative basis of support for the development of a relational identity, academics may also lack a sense of the secure base potentially required before they are willing to turn to peers to develop an increased understanding of e-learning. Thus, they may be less likely to experience the kind of cooperative behaviour that underlies the establishment and maintenance of supportive relationships. They are in a sense deprived of a socially construed perception of e-learning, because their attitudes towards e-learning are not acquired on the basis of institutionally-sponsored exchanges and shared informational cues:

“if change does not depart from within, if it is not genuinely felt, then it does not become effective. E-learning needs to be perceived as characteristic of academic practice, not as something extraneous. It needs to be perceived as an objective, as something that academics describe as something they really have to do, a truly shared objective” (Q11:67:129).

But for e-learning to become a shared objective that permeates the identity and discourse of academics, it needs to be talked about, discussed and placed at the heart of professional socialisation. Chances for a dialoguing professional culture seem narrow in Portuguese academia, since a dominant descriptor emerging from interview scripts is the conservatism of individuals and the inflexibility of the organisational structures they are allocated to. Nevertheless, informants sharply advance ideas to reverse the conservatism that is preventing a more negotiated and participatory approach to institutional e-learning adoption. They praise and aspire to professional relations that are grounded on a sense of intimacy and trust, the sharing of thoughts, and the sense that each member is able to feel comfortable to come forth and express themselves confidently within the existent organisational framework:

“It is well true that academics are conservative, but I do think that they are rearranging their mental concepts and preparing themselves to change. What is missing is the chance to support them

in making this transition is a balanced, sustained way, in a way that instils them trust. Trust is very important. It is an inter-personal process, but it develops in organisations and with organisations and their infra-structure” (Q47:37:85).

Consequently, for many of the informants, universities’ capacity to reap the benefits of e-learning appears to be contingent on the ability of academics to cooperate and to share and synthesise the knowledge that different individuals, disciplinary affiliations or different level of seniority bring to the workplace:

“The theory of positive emotion tells us that people feel better about change when there is institutional support, but more importantly when they are given space and the necessary conditions to be the agents of that change. When individuals decide they are more committed and this is a basic feature of motivation. Likewise, in relation to e-learning adoption, academics need to feel that they are the authors of this story, they need to control and to dominate. Just imagine the Full Professor, so knowledgeable in their academic field. Can someone actually approach them and tell them they are completely ignorant about e-learning? I think that is the message” (Q30:23:44).

However, being the author of one’s story does not equal an exercise of solipsism, and as pointed out by the following informant, it is based on a strong relational orientation. It requires peer relations that promote trust, empathy, and a norm of reciprocity, thus facilitating information and knowledge exchange. Information and knowledge exchange in turn may allow academics to more rapidly and appropriately respond to changes introduced by e-learning in the operating environment of academia:

“It is important to give space to leaders who are not unwilling to share leadership (...). [They] will push a culture of community and shared responsibility because the working culture of e-learning is

networked and the peripheries are called in to become centres of knowledge. That is in a nutshell the innovation introduced by e-learning in HEIs' culture. It like a football match in which many players take the ball forward" (Q11:20:25).

Responding to the networked culture of e-learning requires of academics the development of network relationships that create foci of activities, around which academics can organise their institutional and social relations concerning the adoption of e-learning. A pungent example comes from the establishment of transdisciplinary links:

"One of the greatest advantages of e-learning is forcing different fields of knowledge to dialogue and communicate. Moreover, it prompts academics to think about didactic and pedagogical strategies for discipline-specific contents. I can give you the example of a project we are developing with the School of Engineering that bridges Psychology and Education to evaluate the importance of argumentation skills in online environments" (Q51:13:19).

It is however the establishment of communities of practice that is more often mentioned across interviews with academics:

"ideally we would be able to form communities of practice. We definitely need a group of people who collaboratively build knowledge to solve problems, and who improve practice as reflect and they strive to guide performance by negotiated quality criteria" (Q34:20:33).

This points to the importance of supportive work-based relationships whether at interpersonal level, whether within the confines of different committees academics hold membership with. Cooperative peer relations across the board and the interpersonal facilitation processes underlying them can be the genesis of performance-related outcomes due to enhanced team spirit and cohesiveness of objectives and approaches:

“my idea has been to create opportunities for academics with common interests in e-learning to meet-up and start working together. Then I try to break the ice and to validate a possible intervention with the Pedagogical Committee to pave the way for any top-down strategy. In the end what we are trying to do is to capacitate academics to deal with change by integrating them into strong groups where there are competent, skilled individuals. It is almost a middle-top-down strategy” (Q45:29:39)

Another common trend across interviews was the reference made to network formation and to the importance of promoting diversity. This often involves defining a wide mandate, which requires management intervention to deliberately design strategies that allow the inclusion of a diversity of perspectives, expertise and experiences. In this chapter, academics’ suggestions emphasise the importance of contextual fit for e-learning mainstreaming strategies, which they think is prone to emerge from structured multilevel discussion at the scientific and pedagogical committees:

“I believe that any strategic alignment must start at the Scientific Committee and cascade down the hierarchy, where it can then be embedded and adjusted to the reality of each school or faculty. It is only natural that the appropriation of e-learning is diversified. A Chemistry session, where experimentation plays a key role, cannot be handled in the same way as a Literature session, in which contents are perhaps more easily transformed for e-learning delivery. Institutional guidelines are welcome but they cannot be too rigid, because otherwise they would stand in the way of flexible adaptation. In the end what is desirable is that each school or faculty achieves an integrated solution that is compatible with its pedagogical context. At this stage a tandem negotiation between Scientific and Pedagogical Committee is very helpful” (Q42:9:21).

In contrast to the structured hierarchical responses of committees and internal task groups, many informants propose community sustainable development initiatives that tend to be self-organising, as groups of concerned academics mobilise around specific issues and try to resolve competing e-learning adoption conflicts:

“The use of educational technologies requires an understanding of teaching as a field of knowledge in its own right, but it is not fair to ask teachers from all scientific disciplines an expert-level knowledge. Maybe each department should encourage the constitution of multi-disciplinary teams that promote collaboration between academic with the objective of creating efficient learning designs for online environments. Those teams need the contribution of web designers, multimedia specialists and system engineering, who shall all be working towards the same goal. But to get there we need universities with a less rigid organisational structure, distributed centres of power and decision and the adoption of a shared vocabulary” (Q5:17:13).

The prevailing perspective, however, is that e-learning implementation should operate on a dialogical basis, which results from the encounter of two institutional perspectives: that held and by management and that held by academics as a key interested party, whose motivations and first-hand knowledge and experience of the field cannot be neglected:

“It is necessary to force the encounter of two vectors, which are the top-down and the bottom-up implementation strategies. It is fundamental that things flow from the basis but e-learning adoption is not always an emergent force. When this is the case, academics need to perceive the existence of a strong political will and university-wide enterprise, so that everyone speaks at one voice. The Rectory needs to signal its commitment, because academics have this need of feeling supported by their peers in their decision to

integrate educational technologies. But it can't be a dictatorial determination. The realisation that e-learning is useful needs to bloom inside individuals, otherwise politics is rendered useless. So there needs to be an encounter of the directions: the emergent force of spontaneous adoption and the official engagement of the institution, translated in policy and support structures. It's a movement of horizontal convergence. The university as an institution needs to support academics in the most technical aspects of e-learning and in providing resources to prepare instructional contents for online delivery. Nevertheless, there are specificities that only those operating in the field can attend and have an adequate solution for (Q36:26:52)."

4.3.3 Structural-organisational assurance: Operational level

Operational barriers to the institutionalisation of e-learning refers mainly the inflexibility of careers in HE; restricted time resources; support resources inconsistent administrative and teaching-oriented strategies, policies and practices; and more specifically to the absence of systematic monitoring of e-learning implementation, and the lack of quality control mechanisms. What follows is a detailed description of these barriers.

4.3.3.1 Lack of a responsive normative framework

A normative framework refers to the institutionalisation of standards to reduce risk under the canons of gain-oriented rationality, with a view to maximise trust and provide a more solid basis for academics' willingness to appropriate e-learning. According to informants, such a framework is currently perceived to be missing:

“An effective change in practice is achieved through systemic interventions and we are missing that. The outlook needs to be integrative and sustained by leadership, supervision and determination of quality standards, because online practice also needs to be evaluated. This means going beyond the technological dimension of e-learning.” (Q33:33:51).

A common trend across interviews was the perception that HEIs are faced with the challenge of overcoming surface approaches to e-learning, which are the result of staff heavy workloads and insufficient institutional approaches to tackle the demands and constraints that working in a digital context impose. Academics claim for the development of clear terms and conditions before they decide to adopt e-learning:

“Some core principles need to be enacted by regulations to promote effective action, because teaching face-to-face is sometimes made of tacit knowledge. E-learning makes things a lot more subtle and fluid, so the existence of normative principles could strengthen academics’ trust in e-learning. For example, whenever we install an application into our computers, we agree to a set of terms and conditions. With e-learning we are missing administrative terms and conditions” (Q36:40:88).

Because of this missing normative framework, academics find it uninviting to think of the e-learning experience in terms of an equitable temporal structure, despite the evident need of establishing instructor presence through the definition of course process, evaluation and interaction elements.

“Our structures, functional arrangements and routines haven’t changed: we still persevere with timetabling, lectures and bulky textbooks. E-learning hasn’t found its place in the structure and when we decide to move on with online learning sessions, the system is affected and there is chaos” (Q43:24:26).

In Portugal, the instrument that regulates academic practice is the workload allocation framework. But anyone who has truly been engaged in a serious way with e-learning platforms soon realises that all the preparation time devoted to e-learning is excluded from the terms that define workload allocation.

“HEIs need to review many of their operational standards. One of the instruments requiring revision is the workload allocation framework. We all know that anyone using an e-learning platform needs to employ many hours to get something decent done. And those hours spent are not part of the workload allocation framework because bureaucracy dictates that the evidence of teaching consists in the production of official lecture minutes for session given. Within this framework e-learning poses one big operational problem, which is how is it possible to ascertain that a teacher was in fact working since there are no student attendance sheets or the production of lecture minutes. HEIs need new systems to keep track of working hours. Many colleagues complain to me that they are unwilling to do more online because it consumes a lot of time and there is no recognition or reward for that” (Q50:17:17).

In effective terms what counts as evidence of a lecture being given is the minutes extracted after each session. This poses problems in digital learning environments, where there are no sessions in a traditional sense and no co-presence of students in a physical location to witness whether or not the teacher showed up.

“I have tried countless times and I have formally requested the inclusion of the time devoted to e-learning in the workload allocation framework but at no avail. So far the only thing I have obtained, at much cost, was replacement of face-to-face scheduled lectures by online sessions, but a mere equivalence of teaching and preparation times is not enough. And I only got this because the module I

coordinate is related to educational technologies. If it were a more traditional module, I wouldn't have obtained permission to migrate the face-to-face scheduled lecture online, which is quite absurd" (Q22:4:6).

The law requires an academic to spend 35 hours per week at the university and defines 9 weekly hours as the maximum time allocated to teaching. The system is geared to face-to-face instruction and it is completely insensitive to online learning modalities which are extremely work-intensive and not easily accommodated within the timeframes specified by the law. In practical terms this means that academics wishing to engage with blended learning will need to make use of their personal free time.

"The problem with including e-learning development and how it could fit the traditional workload allocation framework is the present context of budget constraints. Most of us already exceed the legally defined workload in terms of formally scheduled lecturing times. Incorporating e-learning development in the framework would only be feasible with an expansionist strategy in which institutions would hire more academic staff. And I don't see that happening in the current financial situation" (44:23:34).

All universities need to approve a workload allocation framework and specific policy that regulates performance appraisal for academic staff. Some institutions are more flexible and allow academics to fit within a more research-oriented or a more teaching oriented profile, according to the percentage of the 1500 annual hours of work allocated to either of the activities. At this moment in time there is no mechanism in place to consider the time dedicated to online teaching, so adopting e-learning is a matter of each academic's autonomous decision and self-management. The solution adopted by most HEIs to frame the work of academics who decide to teach online is not considered satisfactory:

"The problem is not solved by equating campus-based sessions to time spent online because in reality teachers end up working longer

hours that are not compensated for, particularly spend on tutorial and personalised support” (Q31:31:55).

Furthermore, one of e-learning’s overriding feature is forcing the community of teachers and learners to “handle multiple activities at the same time rather than handling individual activities one at a time”, with the consequent imposition of a temporal culture of polychronicity. This polychronicity is characterised by a set of time-aware structures, processes and linkages which, if not well understood and enacted, may cause a failure of e-learning implementation in the organisation.

“The time available for formal scheduled teaching and for tutoring students is exceeded by teachers’ online availability. This places strenuous demands upon academics because students contact them anytime through asynchronous communication systems, but expect a quick reply, whether it is an answer to a question or feedback on an assignment’s draft. In face-to-face circumstances students wouldn’t probably submit so many drafts, but the truth is that this triples academics’ workload. So a simple transposition of the workload allocation framework to the new context of online learning is not satisfactory”. (Q36:21:40)

Another factor of cognitive dissonance is the lack of guidelines for evaluating online teaching, which makes academics concerned about how their online teaching is regarded in the context of promotion and tenure. Their valuable time and effort can otherwise be allocated to better rewarding activities such as research and publishing:

“The problem with e-learning is that for academics there is no formal equivalent to punching the time card. Similarly there are no incentive and reward mechanisms that make e-learning count decisively as a weighed factor in performance appraisal. So currently the embedding of e-learning adoption in the performance appraisal of academics is subject to the evaluator’s subjectivity. I believe that a

good way forward would be the validation and accreditation of online educational resources as relevant pedagogical and scientific materials” (Q27:29:80).

HEIs autonomy grants them the right to define and implement performance appraisal systems that are more responsive to the needs and requirements of e-learning. This means that it is possible to establish that teaching activities online is an evaluation parameter, although examples of this have not been found across interviews:

“There have just been fresh changes to the legislation framework, particularly at the level of the Teaching Profession Act and Regulations, which confer a greater degree of flexibility to HEIs and the opportunity to customise rules and create, for example, performance appraisal incentives to e-learning adoption” (Q36:32:65).

4.3.3.2 Insufficient reward

Universities, as it is the case of many human activity systems, make use of rewards which are either employed to mobilise employees towards achieving given goals, or which are allocated in recognition of accomplishing satisfying levels of performance.

These two overlapping dimensions seem to generate problems emanating both from the internal academic profession environment and problems emerging from the interpersonal environment within the group of academics. And this seems to occur as a simple consequence of the fact that career and reward systems are structured in a way that steers and conditions academics’ behaviours in directions that contribute to the accomplishment of scholarship standards and expectations.

Academics generally reported teaching online activities to be personally rewarding, but perceived discrepancies between personal and institutional rewards for using e-learning, and most sharply between university rewards for teaching and scholarly activity.

“If universities are to be taken seriously in their intention to incorporate technological innovations in teaching and learning, then they must be able to ensure that adequate reward instruments are in place. Otherwise it will be incredibly difficult to get academics interested, particularly the ones who are naturally reluctant. Those will always tend to value the traditional arrangements and the safer way to achieve professional recognition, stability and an easy access to the very top of the career ladder – presently all of these items are checked with a single investment on scientific output, not the innovation in teaching” (Q5:12:7).

Despite the fact that a wide range of instructional technologies and e-learning development programs are supported, top rated institutional options refer to the recognition of research excellence. If on the one hand compliance with established norms produces access to a specified set of instrumental benefits (making the social environment predictable), on the other hand it compromises educational reform and excellence in teaching, as faculty will tend to regard research as the most expected and valued professional responsibility.

From this comparatively lower endorsement given to online instructional skills emerges an imbalance in the effort-reward chain, which may determine that academics become less amenable to considering online instructional development activities because institutional incentives don't communicate the message that teaching online is serious business, despite the increment in teaching loads and the heavier burden of designing, tutoring and advising responsibilities.

“To be promoted an academic needs to score 30 points in the performance appraisal grid and I can already tell you what is under discussion. It's been overheard that the adoption of e-learning will probably count 1 point only toward the total score. And the weighing given to the student satisfaction questionnaire is also very low” (Q8:16:28).

During the interviews, a recurring theme was that of academic performance expectancies and how they translate into the formalisation of career gateways and progression filters. In this sense, rewards such as promotions and tenure are used to regulate professional membership but also to maximise professional effectiveness by defining the standards of highly capable performers.

The gateway to professorate is reflected upon as confirmation of research abilities and fails in appraising or setting the standards in teaching excellence, thus concealing future academics expectancy congruency. Several respondents give voice to this concern, stating that “at university level, I have never had any kind of pedagogical supervision or guidance as to how should I conduct teaching” (Q:7:13). In reality,

“faculty tenure and promotion to full professorship depends on the assessment of pedagogical skills revealed in a single original public lecture, but apart from this final step in teachers’ career, all other milestones such as assistant professorship consider only or to a great extent, the scientific merit of teachers” (Q:5:56).

These statements reveal a latent paradox lying in the fact that the junior faculty have a robust research profile but are unprepared to teach, perpetuating the longstanding liability of having “new faculty who are young researchers, highly qualified Doctors with no pedagogical qualification” (Q:9:21). As another lecturer puts it,

“being a lecturer is quite an odd and unique profession. Why? Because despite being paid to teach, the basis of your assessment is the scientific output. If you don’t invest in research and don’t progress within the regular timeframe, you may be sent away. So why would one invest in better e-learning contents and in improved mechanisms to contact students – all features with additional costs – if there is no commensurate incentive and you are simply paid to lecture. All you need to do is give your lectures and no one will bother you” (Q:11:11).

In face of the exposed above, academics reported the need to integrate good teaching practice in reward systems to avoid the reification of differences in status between those who comply with existing standards, seek a career based on research and therefore attain greater benefits such as promotions and tenure; and those who escape the dominating value system with personal investment in the virtues and intellectual challenges of teaching and learning, and are nonetheless rewarded with lower status, lower salary and the promise of deteriorating careers. This perception is clearly evidenced by the following account:

“I do not know if academics are prepared for what it means to teach in today’s universities, because it all results from the interplay of many contextual specificities of the Portuguese Higher Education system, and how it credits research and teaching. If teaching has no value at all for the academic career, why would someone invest in it? E-learning is for those who clearly take personal reward from it. Those who don’t enjoy it, who resist and think it is too complex, they will not invest. In general, academics are amenable to technology if it is interesting, useful and enjoyable, but it adds zero to their career development. Being a lecturer, I make my way up the career steps much faster if I pursue a research intensive culture and get three papers to be published in refereed journals, than if I design the most interesting and impacting courses that excite students and transfer knowledge to companies” (Q:3:6).

A fairer reward system, academics argue, must be able to go beyond symbolic incentives and impact in the research culture in such a way that the scholarship of teaching and learning offers equivalent compensation, thus ensuring an integrated approach to academic careers.

“Any type of reward would really be very welcome, for example the allocation of time credits to do research. Those rewards should be discussed internally at Pedagogical Committee level. Another reward instrument is the availability of extra funding for research. This

balancing of teaching and research would attract those who are still recalcitrant and resist teaching online because presently it is completely irrelevant in terms of promotion. Furthermore, I've never been aware of the existence of any form of symbolic reward or recognition" (Q19:29:45).

In the course of interviews, a significant number of academics also expressed the belief that even when e-learning reward systems are set into place, they essentially fail at delivering a culture of innovation in teaching and lack a sense of real credibility. The impact of reward and incentives schemes is limited and represents the situation of universities' wider institutional environment – geared to value research and accord low status to teaching practice. Academics who invest their time in developing e-learning, do it at their own risk, jeopardising career development, as expressed by one lecturer:

"During the years I have developed e-learning more intensively, I could not practically conduct any research. I think teaching times should be tracked and counted differently. With my e-problem based learning project I work double the hours I would need for face to face teaching and I have no reduction in my work schedule. Not to mention my other professional occupations and commitments within the university" (Q:1:41:3).

There is moreover a discrepancy between university policies regarding the importance of teaching and the record of practice inducing a turn to pedagogical excellence, which may theoretically reflect an emphasis on re-orienting teaching from traditional methods to e-learning, but which still fails at unambiguously defining institutional learning and teaching priorities, and at specifying and evidencing standards of excellence. The following interview extract describes best this situation, acknowledging that prizing the merits of good online teaching is positive yet insufficient:

"(...) a prize rewards and distinguishes an individual only. We lack wider-encompassing policies that call people on board and commit

them to explicit objectives. Those objectives would clearly set the way forth for everyone. In its absence everyone follows their natural perception of objectives and there is not an integrated approach” (Q:6:5).

E-learning rewards should therefore be related to a career plan, and be sensitive to the organizational culture, to leadership, to academics’ work environment and qualifications.

“Reduction on teaching workload, financial rewards and opportunities for promotion – those are in my opinion the finest examples of possible reward instruments. They are all difficult to implement, even the reduction on teaching load because HEIs budgets are being cut and it would mean hiring more staff. Though institutions are autonomous to do so, they are really constrained by funding difficulties” (Q17:11:45).

When related to academic professional competency, rewards can enhance intrinsic motivation, but this requires the assumption of quality standards for online teaching, which are linked to the portfolio of academic skills such as content expertise; instructional design; choice of appropriate delivery methods; course management; interaction moderation; and adequate scaffolding and facilitation of learning.

“The reward needs to operate as stimulus, as a driver of pedagogical innovation because fundamentally academics need time to develop innovative pedagogical designs and technology-infused interventions. In terms of workload allocation perhaps a reduction of the teaching load. I know that at some universities in Spain it is common that module coordinators who decide to move on to online delivery get preparation credited as effective teaching time. This kind of reward is highly effective but in its absence academics have no choice but reverting to the old methods of lecture and final exam” (Q22:18:27).

An absence of criteria becomes even more problematic with the transparency provided by developments in e-learning, which no longer offer camouflage for desultory performance, opening up teaching as a public act and subjecting it to student satisfaction ratings and market competition for students.

Moreover, e-learning delivery brings along additional effort and unaccounted for workload, in comparison with traditional teaching. Academics reported the effort put in the management of e-learning environments and in the preparation of high-quality educational contents, which

“(…) does not come in proportion with how teaching times are credited, and the time spent in e-learning is significantly larger. Before e-learning it was relatively simple: face to face lectures made up our teaching times. Now on top of that we have a series of lengthy activities conducted outside teaching times including interacting with students, which remain unaccounted and insignificant for career development purposes” (Q:7:3).

It therefore becomes apparent that from a career perspective, academics’ concerns revolved mainly around receiving credit for the extraordinary work associated with distance delivery, which may be recognized with soft reward mechanisms such as self-gratification, peer recognition, prizes or one-off bonus payments, but which brings no significant impact on promotion and tenure process. Examples of reward strategies already in place include, in addition, “time credits, reduction of teaching times or allocation of funds to conduct research” (Q:6:39), but calls for more radical solutions were for infrequent, for instance considering the preparation of online educational materials on an equal standing with scientific outputs:

“This type of recognition would signal that the university encourages e-learning and actually pays attention to what types of online educational resources are produced by academics” (Q27:10:26).

4.3.3.3 Intellectual property rights

Instructor-delivered courses where academics are the main vehicle of knowledge remain the norm in Portuguese HEIs, but virtual learning environments are more and more used to complement face-to-face instruction. As far as teaching and learning resources are concerned, the majority of materials used are handouts of lecture presentations, textbooks, copies of supporting documents or analysis created by the teacher, scientific articles or pointers to specialised resources made available elsewhere online. In other words, learning objects are created from academics' own efforts and resources, occasionally from discipline-specific portals or collections of research papers, yet rarely from colleagues' input. It is also frequently the case that learning objects features content that is specific and particular to an academic's own research, which eventually reinforces the willingness to protect and retain acknowledgement of intellectual property.

Despite this apparent pessimistic scenario, a minority of the academics interviewed during this study responded enthusiastically to the open scholarship of teaching and to its promise of transforming pedagogical practices and academic knowledge into commonly available and shareable resources:

“I am not too worried about ownership and copyright issues. In my opinion, the contents and materials I create belong to the world. On the other hand, I advocate the existence of an information ethics on the users' side. There need to be a certain responsibility in the use of contents. But I certainly do not think it is worth to produce contents if the academics' posture is exclusivist and reductionist. We miss the whole point of e-learning and innovation in education if we are so narrow that we want to restrict our contents. The produce of my creation is for everyone to use and enjoy. If I got to this point and became an academic, I owe it in a great extent to the knowledge

other held and dared to share and open up to the world around them” (Q42:35:69).

One academic, in particular, reflected on the specificity of public HEI, considering that taxpayer-funded scholarship should be open to everyone and that any attempt to capitalise and extract personal benefit from the commercial exploitation of educational materials is not legitimate.

“My salary is afforded by taxpayers; I work for a state university, so I consider that producing learning resources is an integral part of my job. It is my duty to work in the better interest of my students’ learning and academic success. However my students form a closed circuit. But this production logic can be altered if I am offered a new type of contract that clearly specifies and request the production of e-learning contents for a specific course and for an additional payment. However, I still think that my condition of academic at a state university informs my duty of working on behalf of the general public. I defend open contents because I actually expect that the users of my contents can expand them, improve them and do a better work than the one I did. My only issue is not with use of information I generated, it is with crediting authorship. It makes sad to see other individuals use my slides, my texts and my images without a single reference to the original works. I often recognise my own words misappropriated and misattributed. Then it gets me thinking of intellectual property theft” (Q36:38:80).

However, the aforementioned accounts are exceptions. The prevalent perception seems to be one of grave concern about resources integrity, intellectual property, academic freedom, and the nature of scholarly work. Fears concerning ownership and control of knowledge are related to the ways academics perceive the objectification of learning materials allowed by

e-learning systems, namely the degree to which their intellectual output can be recorded in forms that can be preserved and further exploited online.

“What I am trying to tell you is that many academics refuse e-learning because they do not wish to see their contents misappropriated by their colleagues. They fear that they may be distributed in circuits that escape their control simply because it is something that took them time and effort to generate. They are not willing to give up control and property without expecting some sort of benefit. It is discrediting to the academic’s professional standing not receive reward for that production, especially if we consider that teachers are paid because of their knowledge transmission and for the guidance they offer to students. When academics’ instructional contents acquire a portable dimension because they become artefacts – under the form of texts, images or animations – there is a whole new range of intellectual property rights coming into equation which did not exist when the basis of knowledge transmission used to be restricted to oral communication. I would say that the threat does not come from anyone challenging the authorship of contents. The threat comes from disseminating those contents without attributing any royalties. These problems are not discussed thoroughly, they are too vague and abstract but they impact heavily on academics’ decision making when considering the adoption of e-learning. It’s a concern that dissuades them from contemplating the possibility of using e-learning” (Q3:25:50).

Therefore, the apparent lack of clarity and deep understanding of intellectual property may be magnified and ultimately result in reluctance to produce e-learning materials, let alone share them. This new “portable dimension” of the e-learning materials is very different from traditional lecture notes and handouts and has become not only accessible, but eventually subject to copy, transformation and even misquotation as noted by the previous

quotation. Therefore, it is this very “portable dimension” that poses a variety of risks for intellectual property rights ranging from plagiarism to loss of royalties.

The existence of monetary and career progression incentives to the development of e-learning contents was also referred to by informants as something that HEIs should invest on to encourage academics’ deeper involvement with e-learning.

“I presume that most of these academics desire the establishment of a contract system, in which they are paid according to the level of production. Their services are hired for instructional design and they get additional financial reward to ensure that authorship and intellectual property rights are respected. This is perhaps the only measure they perceive to be effective in preserving the autonomy and intellectual individualism of academics. From the academics’ perspective, from the moment intellectual property is safeguarded, e-learning is less of a risk factor or a threat to their professional standing” (Q27:16:43).

However, it is the status of the academic profession and how it relates to intellectual capital that eminently captures the attention of participants. After investing time in developing contents such as podcasts or recordings of lectures for streaming on demand, some academics feel that e-learning threatens their intellectual capital by packaging their expertise into ready to consume learning objects, which can be delivered to students without their mediation, or even with the mediation of cheaper staff such as teaching assistants.

“Now I wonder who is able to guarantee that I will not be made redundant after I invest all my knowledge and effort in producing such contents. After producing that knowledge base I become disposable, my institution can fire me if they decide so and hire someone at a lower rank for less money to deliver the contents I had produced and to take my course over. I think this is not an unrealistic scenario. Nevertheless I find it immoral. Institutions need to find a

way to ensure ethical operation and to protect authorship. I am not saying that before e-learning knowledge leakages were non-existent. However, there was a sense of protection and safeguard over whatever happened inside a lecture theatre” (Q30:14:29).

4.3.3.4 Inconsistency between adoption goals and quality criteria to measure them

This barrier refers to the lack of logical connection between e-learning adoption – introduced as an institutional goal – and responsive quality assurance and quality enhancement mechanisms. Informants criticise the general absence of means to ensure and confirm that the conditions for e-learning adequate operation are in place.

“No one has clear picture about the performance of e-learning at institutional level, no one knows for sure if it is being effective, efficient or if its affordances are being exploited to the maximum. No one knows if it is not more than a documents repository. Value and impact are not really measured” (Q9:34:42)

On the one hand HEIs seem deprived of adequate means to monitor and judge e-learning performance, particularly because there are no agreed on standards to guide the appraisal of academics as practitioners.

“We are looking at a disruptive model of change, which means that there is no reference point, no plan to follow, no roadmap with milestones outlined, which poses a problem. Academics cannot relate or find the key operational points in the change process. So how am I supposed to control change, let’s say in terms of a project timeline. Is this a change processes programmed to last 6 months, 1

year or 5 years? All the objectives and indicators are missing”
(Q11:32:49).

This makes it extremely difficult to engage in retrospective analysis, to look back into the past and make a judgment on any given history of performance. When this focus is missing, the emphasis on accountability and compliance is clearly underemphasised, because there is not sufficient investment on the development of specific methods and parameters. Also, in the absence of evidence the standing of e-learning as a viable instructional option may appear as credible as necessary to stimulate academics’ commitment:

“Every e-learning strategy or every technological system adopted by the university needs to gain a scientific status to avoid being depreciated by academics. This means that it needs to be evaluated according to scientific criteria. It needs to be researched, there have to be studies and scientific publications about the use of e-learning”
(Q45:36:47)

On the other hand, quality enhancement initiatives, understood as institutionally-sponsored steps undertaken to improve the quality of e-learning opportunities are not perceived to be doing their job of securing reliable and demonstrable improvements. This is very apparent when academics are asked to reflect specifically on their institutions’ promotion committees and the type of appraisal they make of teaching at large, and of e-learning in particular:

“The bureaucracy is overwhelming and it oppresses the creativity of academics, nevertheless there is no definition of quality standards in terms of a threshold of learning outcomes. Now we finally see the first steps of performance evaluation, but the people who were entrusted the responsibility to evaluate their peers are the most senior, the ones precisely who have never endured any form of scrutiny and who will do no more than to perpetuate the state of things. All they’ll do is have a look at the syllabus, check that the reading list is up to date and confirm if the number of credits

allocated to each module corresponds to the assigned teaching times. But no one seems concerned about teaching and learning philosophies or discipline-specific learning outcomes” (Q2:30:56).

Another problem frequently mentioned is that of poor institutional emphasis on discussion, and insufficient cross-disciplinary collaboration, which undermines the emergence of opportunities to reflect and collaboratively develop the articulation of quality assurance methods with performance appraisal instruments.

“Motivation to adopt e-learning will be more easily achieved when academics’ performance appraisal grids contain a specific parameter that evaluates the use of e-learning. This is the only way to ensure that all academics – not only the techno-enthusiasts – are deeply engaged with innovative pedagogical activities without sacrificing career advancement. The core strategy is placing e-learning at the core of academics’ professional development and reward” (Q25:32:50).

When there is a feeble alignment of quality assurance methods with performance appraisal instruments the consequence is the lack of comparative judgments, since there are no targets and predetermined internal and external standards to compare real or aspirational performance with.

“An academic’s capacity to integrate educational technologies in teaching practice needs to be properly considered in performance appraisal, if for no other reason, at least for the fact that neglecting educational technologies is an example of bad practice. Performance appraisal instruments that are silent about e-learning operate like signs pointing in the wrong direction because they undervalue and underestimate the value of educational technology” (Q14:31:48).

This problem is compounded by the lack of consolidated expertise and the pedagogical unpreparedness of those who hold the responsibility of evaluating the performance of their peers:

“we created a paradox because no one around me is actually capacitated to evaluate the quality of the educational materials that I produced for online delivery. For example, if I took my videos to a habilitation lecture, the panel would penalise them because they would not be able to understand the reach of my work. It’s a world apart to most of them” (Q9:43:54)

A possible solution could be the constitution of interest groups – gathering both academic and professional support staff – with the objective of aggregating, synthesising and sharing practice related to the use of technology in teaching, learning and assessment.

“There are no performance goals or indicators to guide academic practice in Higher Education, particularly in what the integration of educational technology is concerned. It would be legitimate to establish them, but I don’t honestly see it happening because it’s very far from the agenda and it would generate tremendous resistance. An alternative is creation of competence centres and collaboratories in universities, and making academics undergo training in e-learning. But all of that takes a long time” (Q3:13:25).

Another barrier to measure quality is the non-existence of national quality reviews in Portugal with a clear e-learning focus, or benchmarks to influence policy and practice.

“There is no sense of pathway, strategy or coherent policy. There is no agency to regulate important aspects such as the allocation of teaching duties, or an explicit framework to evaluate pedagogical competence, with real impact on career progression. Similarly, there

is no agency mandated to validate or certificate the quality of university's online provision" (Q5:14:10).

The government as regulator should have the primary responsibility for assuring the quality of HEIs' provision. This is a principle that should be developed and implemented in a deeper way in the specific case of e-learning, considering a vast array of factors: appropriateness of technical set-up for instruction, adequacy of interpersonal communication systems, adequacy of learning outcomes and study programme, and adequacy of instructional design (activities, student orientation, tutoring, assessment).

"I believe in the capacity of expert, independent agencies whose mission is to evaluate performance, but I always fear things become too bureaucratic. I think it is important the establishment of an evaluation committee for modules operating online, similar to the scientific committees that validate any other course before its start. It's a process of certification and validation and maybe that should be an additional competence of the national certification agency" (Q33:23:29).

Accordingly, transparency and the use of external agencies in quality assurance processes are perceived as critical to the success of e-learning institutional mainstreaming strategies. They promote accountability and increase the confidence on the quality of e-learning provision:

"There should be national authority mandated to both certify universities' online offer and the quality of e-learning provision. Maybe this authority could operate at European level and offer support that would help overcome a trust deficit among academics. This authority would aggregate an elite of e-learning experts – a mix of individuals seconded from universities and external consultants - who would visit schools and departments, meet academics and students, diagnose the situation and sketch a strategy for change.

This would produce the simultaneously feeling of proximity and critical distance” (Q32:65:100).

Finally, many of the informants considered that in order for quality assessment of e-learning to become an integral part of HE quality reviews, e-learning specific aspects and criteria need to be integrated into the general basis for assessment. In practice this means that assessment frameworks should be open and capable of accommodating input on e-learning. For instance, if academics have been trained to become proficient in online tutoring, it is relevant to elaborate on this under the assessment frameworks.

“The best way to improve and promote good e-learning practice is transparency. In politics, candidates are forced to participate in public debates against experts. Similarly, in the field of education, there should be quality thresholds. At university level these should be associated to performance assessment and they should be moments of public scrutiny” (Q12:56:44)

This ideal-type situation is only transferrable to practice if benchmarking statements are available for institutions to be referred to. Notwithstanding it is not yet common to benchmark e-learning in Portuguese HEIs:

“Another typical problem across Portuguese institutions is the insufficient culture of evaluation or as a matter of fact the lack of investment in follow-up activities. It is very difficult to determine the success of any project, because we are not traditionally outcome-driven. It’s not part of the Portuguese culture” (Q32:68:106).

However, some informants perceive benchmarking as an important exemplar-driven teleological process that can effectively change organisational culture and lead to a superior state of affairs:

“I cannot assess academics if previously I haven’t given them a comparative benchmark or a performance standard. Also, the motivation that drives good practice needs to emerge from something more concrete than the descriptions that are abundant in specialised literature. I’ll be more specific. Research is assessed on the basis of innovation and established scientific patterns, which are collegially defined. When we move on to the field of educational technology, there are no parameters. How can I evaluate if I do not have a paradigm or a group of leading experts that consistently provide a solid theoretical basis to influence practice” (Q18:17:34).

4.3.3.5 Inadequate specialised services

This barrier refers to the realisation that the arrangements for providing support for the use of e-learning are insufficient to provide academic staff with access to the necessary skills, training and guidance at both an institutional and a departmental level to enable them to take full advantage of the opportunities that e-learning offers.

“Let’s be clear here. When there are dedicated services that specialise in supporting e-learning development, when academics can rely on multidisciplinary teams composed of IT and multimedia specialists then all the conditions for successful appropriation are reunited and there is evidence of stimuli. Unfortunately this is not the rule. We don’t even have properly operating computing services in this institution. If I accidentally damage my computer there is a waiting period of two to four months. In this context, no one is really interested in experimenting or trying things out. Why would I be the exception?” (Q26:17:28).

Academics' dissatisfaction with the level of support offered by HEIs is rooted in several reasons, although a general outcome is not feeling encouraged or empowered to take advantage of the ways in which technology can invigorate and enhance the effectiveness of teaching and contribute to learning outcomes:

“If you ask me if I feel qualified to employ an adequate pedagogical strategy with e-learning I have to answer no necessarily. I lack adequate pedagogical training and a proper teaching qualification. One year ago I enrolled in a course about technology enhanced teaching and learning offered by another university but I ended up not going. The training was cancelled due to insufficient registrations. I made this effort with a colleague of mine, and the course itself was offered on a blended learning basis. Unfortunately we never got the chance to take it and our own institution does not offer anything similar” (Q6:9:13).

Nevertheless across interviews there was a consensus about the importance of institutional services and structures that provide guidance and support to members of academic staff in the design, production and implementation of pedagogically-sound approaches to the use of technology, to enhance teaching and the wider learning experience. On several instances, the availability of specialist teams was referred to as critical for the feasibility and practical execution of e-learning projects:

“We have already thought of embarking on another project, but projects of this type need a technical core, a cohesive group of programmers with a strong grasp of the technical tools. Our work as teachers is to conceive and execute learning designs that respond or action certain learning outcomes. In our projects it was a very strong team of programmers that implemented what was in our heads – they took many and long hours but finally they translated the concepts into features of an e-learning system, which was mainly

self-directed. We would sketch a few ideas; explain how we wanted animations to be designed, how certain elements would rotate or any other action... I really miss that bunch because they were proactive and they actually proposed many add-ons to the initial functions. You can't really ask an academic to program in Java language. There really needs to be substantive know how supporting academics" (Q41:7:20).

The embedding of a range of learning technologies requires major support to academic staff in designing and implementing learning technologies based on sound pedagogic principles to support curricula. It also requires a strong emphasis in practical, applicable knowledge, which differs substantially from the abstract or loose understanding of e-learning.

"I would appreciate the opportunity to learn about designing contents for new web applications, both from a technological and a pedagogical angle. The pedagogical issues, the theory and the practical aspects of teaching and learning are removed from the concerns of the majority. In fact, no academic is requested to master any pedagogical concept before teaching. With the introduction of technology in teaching, the issue of pedagogical competence is reinforced yet it still remains unaddressed. The only moment in an academic's career that focuses on this aspect – at least from a purely formalist perspective - is the habilitation lecture" (Q7:17:25).

A practical understanding of e-learning depends on a mixture of both technical and pedagogical skills that can only be leveraged if support to design and develop online and blended learning materials is available from specialised services, which should be capable of working creatively with academics to implement appropriate solutions and support their teaching:

"It is necessary to create specialists in educational technologies. Universities need interdisciplinary teams of e-learning experts. When

there was the boom of the textile industry, clock repairers used to be called in to repair broken machines because the mechanisms were similar. When computers were introduced in society in a larger scale, the first people to experiment with hardware were the electricians. With e-learning, that function was maybe initiated by the educationalists. But the specialism is yet to be consolidated. One needs specialisation because we don't want those who work on e-learning to be compared to the clock repairers who were helping out whenever needed" (Q36:23:99).

The range of support required to embed learning can take up various forms. It can be translated into practice on a higher level through active administrative leadership; and on an operational level through allowing time for experimenting with e-learning, arranging practical hands-on experience sessions, or engaging academics in networking opportunities for sharing and collaborating.

"It is useless to reinvent the wheel. In my opinion, one the most crucial success factors is the availability of role models. Academics need to have knowledge about successful implementation examples. This will augment their trust by offering models over which academics can compose their own personalised model. (...) It is not about copying formulas; it is about making an informed choice and grounding personal decisions on a corpus of available experience. This is not something easy to achieve. People seem to be unavailable and shut down. You would be surprised by the amount of people that I meet who comes to me thinking that nothing of what they want to do has been previously experimented with or published" (Q33:31:49).

Also on an operational level, technical support enablers of e-learning adoption include the availability of competent, service-oriented IT staff, and reliable access to secure and robust information systems.

“The elaboration of multimedia contents is demanding and I think that it requires specialised help from programmers and web designers. It’s the best alternative to the sort of amateur products we see now. You cannot call a PDF version of a book a content or a learning object. Nevertheless that is the most common material found on platforms. It is a digital object, but then it is no different from the resource stored at or mediated by the library” (Q11:49:91).

Support should also be available in the form of both upon-request and continuing interventions, designed to ensure a fresh look at design in a technology-enhanced context, and focused on analysing and exploring scenarios commonly experienced in learning and teaching (e.g. electronic portfolios, electronic assessment, wikis, blogs, etc).

A process of continuous professional and personal development is essential because many academics are not familiar with the new learning paradigm introduced by learning management systems and by social web applications. And as knowledge intensive institutions we cannot tolerate that an academic is ignorant about these developments. (Q48:32:53)

Additionally, training should provide guidance on sourcing, creating, managing, and using digital media resources:

“Universities need to create specialised services that support the production of didactic contents for the web. My feeling is that the most technical staff is not professional or qualified enough in educational matters. The worst thing is that students end up being on the losing side because they have to bear static contents and bulky text” (Q9:23:27).

Typically, training takes the form of workshops, which are organised to develop academics' technological skills and to generate understanding in the area of pedagogic design. However, a common criticism expressed by several informants has been an overemphasis on the development of technological skills:

“There is some local offer of training programmes. Occasionally there were some sessions, but very sporadically and very focused on practical issues. They were more like clinics, something of the type: come if you want to figure out how to design an exam on Moodle. I never had the chance to attend any. And they were organised during semester breaks, but that is usually the time we use to mark assignments and discuss final years' dissertation topics... so not the best timing” (Q6:11:17).

Across interviews with participants, institutionally-sponsored workshops have been praised for their function as induction programs, since they provide staff with an overview of the institution's e-learning expectations and online learning environment. They also signal management commitment to valuing staff as an integral part of the organisational strategy to mainstream e-learning.

Furthermore, there is the expectation that workshops improve their format in order to enable participants to try out tools and resources, and to consider how these could be used in their own work from a pedagogically-sound perspective:

“In general terms, I think that there is a lot to improve in the provision of staff development. It takes a lot to integrate educational technologies in the classroom and beyond, it takes a massive change in pedagogical methods and a rupture with old assessment methods. It also entails changes in established practice related to how people search information, produce and access contents, make contents available, transferable and applicable in the wider context of society” (Q40:3:8).

Ideally training and professional development services should capture instances of effective practice, providing participants with templates and examples that can be adapted and cascaded down to their own communities:

“What I find more personally reward is the production of learning objects, but I do think that if the university seriously wanted to invest in the production of online learning contents, it would have to create a multi-disciplinary team. We would need people like me, academics who are content experts, but we would also need instructional designers, staff to conceive scripts and storylines, and multimedia experts who are comfortable with dynamic programming languages. This capacity needs to be housed by an autonomous service within the university. If the library is there to offer books and journal articles, we need a dedicated team to produce e-learning contents” (Q30:18:35).

In terms of structure, academics revealed a preference for highly interactive workshops, in which participants experience tools, test models and engage in collaboration and discussion that contributes to further develop and adapt educational materials:

“Expecting that all academic become experts in pedagogy is not reasonable. There is not time for that. You cannot expect to that academics stop their scientific development and disciplinary growth to develop themselves to the study of teaching and learning strategies, unless we ask all our academics to take a degree in Education. What I think can be done is helping academics by offering them examples of how to teach and how to assess students in online learning environments. We need to show them the real deal and not the usual fluff and the nice words such as the student-centred learning” (Q15:36:63).

Contact with university-wide facilitators of e-learning was reported as a success factor and

as an enabler to developing a critical understanding of the principles of effective design, as well as of e-learning planning and evaluation tool:

“We discussed with the Rectory how the support service should look like and decided to create a group of facilitators. It’s a new occupation, a new role in the university. Their function is to support students online in their contact with the platforms. They are neither teachers nor computer scientists. Instead they act like tutors who support students online, therefore alleviating academics’ workload” (Q17:20:82).

A particular informant refers to this role as educational technology consultancies, emphasising the importance of knowledge brokering and the interaction between academics as content experts and instructional design specialists:

“One obvious answer to overcome resistance is training, but I am not a strong believer in the merits of training alone. I am advocate of something along the lines of specialised consultancy. Every university should have learning design and educational technology consultants available to help academics. They don’t need to be too numerous, all that is requested is that they have a broad range of skills, from systems administration to collaborative design. Just imagine a department where instead of three administrative assistants you actually rely on an information specialist who helps you access resources and produce learning objects, for instance” (Q43:22:32).

As expressed above, academics welcome exchange opportunities that enhance the usability of materials by promoting discussion around possible ways in which learning objects, for instance, can be used and adapted for different communities and individual contexts of activity.

“Staff development with a view to stimulate innovation is the holy grail. I am convinced that it is extremely difficult to innovate in isolation so what we need to create is networks of qualified teachers, sustained by continuous professional development, many informal meetings and a real community of practice” (Q50:20:23).

On another front, the creation of centres for e-learning at specific institutions for example, has been reported to strengthen collaboration between colleagues and departments on all aspects of e-learning, particularly on instructional strategies. They are said to provide invaluable opportunities to discuss, formulate and disseminate ideas and best practice.

“My transition to e-learning and to integration of educational technologies in my teaching was facilitated by the university’s support services, in particular by the department created specifically to make educational resources available to all academics. This service comprised a team dedicated exclusively to the university’s information system and that was the starting point of the e-learning project, because they were very attentive to developing tools that could support teaching and have always introduced them to those who are interested” (Q25:2:2).

The learning that occurs from peers and mentors points to the importance of collegial networks over formalised training programs, which can inhibit genuine interaction and the open sharing of problems and difficulties.

“E-learning is not something to be figured out at the first go. It’s an ongoing endeavour and academics need to spend a lot of time on e-learning platforms and more. The preparation of contents needs to respect quality criteria. There is a growing pressure to prepare multimedia-rich contents. Maybe it would be useful to rely on a multidisciplinary team to create contents and learning objects. Web

designers need to be onboard, video experts need to participate too” (Q10:45:88).

The lateralization of discussions also provides excellent opportunities to promote and showcase adoption successes that lead to more intensive knowledge sharing. E-learning champions are also mentioned by academics for their pivotal role in this process, their core task being offering motivation and inspiration as well as developing their peers’ expertise in and use of instructional technologies in everyday teaching and learning:

“We are lucky to count on a group of very skilled people here. We call them technorangers and they create informal learning moments, they spontaneously arrange meetings with groups of academics. Their intervention is requested by their peers, who respect them and value their knowledge and proficiency in the use of educational technologies” (Q4:50:44).

Champions focus on end users by mentoring and coaching them through different levels of engagement with e-learning: they gather specialist information and help academics learn new skills and knowledge that is essential to utilise the technology; they promote experimenting, trying out and sharing online experiences with other academics; they invite academics to explore connections between technologies and the curriculum; they empower academics to transfer knowledge, build strategic partnerships and suggest improvements. This latter level refers to the constitution of communities of practice, in which the confidence to experiment with e-learning is the product of collaborative exchanges between core specialists and users of all levels of proficiency:

“Our long-term strategy is to implement some form of permanent support, something like a helpdesk. But we are also looking at the development of campus-based communities of practice. Both structures would act like comfort systems, aimed at putting academics at ease with their own difficulties. So they could come

and put their questions forward without any formalism or fear” (Q31:12:15).

4.3.3.6 Underestimated organic development

Advocates of an organic type of development for e-learning across HEIs propose a bottom-up practitioner approach for framing adoption:

“The development of e-learning should be organic, following a bottom-up flow. This university experienced an expansionist development of e-learning following the acquisition of software licenses, funded by governmental call that sponsored virtual campuses, but now there is a group of academics who lead successful module-based projects, at different levels. So the levels of development are asymmetric and there hasn’t been any significant push from the Rectory to place e-learning as a priority” (Q8:26:43).

This perspective assumes that e-learning adoption emerges from academics engaging in conversational frames that help them accommodate new ways of conceptualising teaching and learning, thus rejecting the idea that e-learning mainstreaming as a manifestation of organisational change only takes place following a top-down or leader-led strategy:

“Observing, absorbing knowledge and interacting with other academics that are experiencing more advanced stages of e-learning adoption will make those who are new to it perceive the benefits. As long as the prevailing opinion is that e-learning is not worth it, that it is too complicated and does not generate any return on investment, academics will not realise its potential and will reject it because they will be lacking the self-confidence and the necessary trust in the

system and in the university that is pushing its adoption” (Q14:55:90).

Another key assumption of the partisans of organic approaches to e-learning development is that academics engaged in small-scale e-learning projects hold enough transformative potential to stir up action and imprint changes in HEIs organisational culture that go beyond localised levels.

“My experiences with educational technology have all been project-based and I see them as a continuum that started in the mid-90s, with European Union-funded pilot projects. But mostly I collaborated with colleagues in small interventions, mainly in the creation of web-based learning communities. (...) The projects I took part in are evidence that change can happen and stay through developing small projects. It is only necessary to find a niche, an anchoring point where projects develop cumulatively to become first a role model and then the paradigm for more innovation and global change. It is the accumulation of that progressive capital of experience that has allowed us to increase our ambition and go further. At this point we have just launched a masters’ programme that will operate in blended learning, with 50% of the teaching and learning activities taking place online” (Q11:4:5).

Several individual and collective attributes characterise the operationalisation of organic approaches to e-learning implementation, namely personal initiative and academics’ proactive behaviours, upward management, social networking, and the exercise of influence by virtue of evidence – not formal authority. This reflects a social constructionist perspective to e-learning mainstreaming, since the establishment of a single organisational story or a monolithic vision of e-learning is rejected. The richness of e-learning is composed of the multiple perspectives, projects and conversations that take place in different departments:

“The School of Education developed a very interesting project with the Faculty of Engineering, with a view to developing an e-learning system that operates remote access to laboratories. The project had three objectives, namely training academics into the use of educational technology, helping academics develop a hands-on approach to the pedagogic and didactic planning of the learning activities to be facilitated through the system, and allowing students with disabilities and even students from third countries gain access to our laboratories. In terms of course design this was also a challenge because it forced participants to reflect on assessment, which is usually problematic for academics” (Q51:11:16).

Understanding bottom-up approaches to e-learning adoption in HEIs implies acknowledging a focus on practice, because the frame of reference is academics’ situated experience rather than any positivistic orientations emanating from managerial legitimisation.

“This whole intention or aim of making all academics develop teaching activities online is kind of complicated to put into practice. Maybe an action-research model would suit the objective better. I am very confident that the answer lies there. As an academic I need to have experiences that will drive change in the very context of action and not in abstract, administrative or bureaucratic terms. I need experiences, cases” (Q11:23:31).

In this sense educational technology-based curriculum innovations take the form of organic bottom-up developments, championed by enthusiasts and supported by informal coalitions - pockets of good practice that symbolise the empowered leadership of small active groups.

“I think that the level of management intervention needs to be kept to a basic minimum, only to ensure operational performance. All the rest needs to be product of self-generated dynamics, of the interaction of academics who group themselves according to needs,

disciplinary interests or developmental needs. In any project that we end up being engaged with we always have a reference group with whom we share responsibilities and learning” (Q14:26:38).

These pockets of good practice emerge when academics use their initiative to begin implementing a vision for e-learning within isolated parts of HEIs, drawing on a small number of people around them, who work towards improving and refining that vision.

These practices start locally yet they become visible more widely within organisations because of the demonstrable improvements in performance that they represent. There is however the inherent risk that the significance of such practices fails to benefit the teaching and learning community more globally:

“The generalisation of e-learning should pursue a bottom-up strategy to strengthen academics’ trust. This is better done with small-scale projects, although there is always the risk that they will never escalate and become truly global” (Q44:27:42).

When the strategic value and wide organisational impact of these isolated pockets of excellence is perceived by management, managerial intervention attempts will eclipse. It is then important to preserve the organisational conditions that allowed these initiatives to flourish in the first place, and avoid heavy managerial intervention that could degenerate towards top-down interventions. Nevertheless, institutions that exercise leadership by example have been pointed out as successful cases across interviews:

“Smaller organisations are more compatible with an organic model of development because it is easier or perhaps faster that smaller projects grow bigger and escalate into greater dimension through contamination and cross-fertilisation of practice. So when the volume of change in practice is achieved spontaneously, it is easier for the management structures to point role models out. In larger organisations, contamination and role modelling are insufficient to reach the critical mass of academics” (Q15:34:60).

The defining feature of organic development is self-regulation and autonomous production of strategic direction. This requires that HEIs top management relinquishes control (except defining the general contents of broad strategy), whilst accepting that out of disconnected pockets of good practice could emerge relevant strategic direction.

“I consider that during the initial stages any approach to implement e-learning needs to be organic and count on small-scale, locally-developed projects. Any hint of intervention will create backlash and antibodies. Academics are reactionary in the face of the unknown and e-learning is something unknown to them, and something that increases their workload. Their reaction is denial and rejection of something that can potentially very interesting and useful to them. That is why I think e-learning implementation strategies need to be more dialectical, more grounded in the field and more focused on solving academics’ teaching problems” (Q50:9:10).

Above all it would mean empowering individuals to start and lead initiatives, thus emphasising the power of delegated leadership.

“I believe in the diversity of experience. The existence of institutional guidelines is important, but more important than that is the diversity of approaches to e-learning implementation. Each individual faces a unique teaching situation, which is determined by several contexts. Respecting these local specificities is essential to craft a new context – the context of digital educational technologies in use, tailored to fit and to be responsive to actual needs” (Q42:7:15).

5. Discussion

The formulation of an explanatory grounded theory is the identification of a coherent story, which consists in the narrative alignment of the most salient features of data, interwoven in a set of systematically related descriptive sentences that account both for the uncovering of patterns in data and for the sequencing of categories. This stage essentially translates the “process of going from raw data, thinking about that raw data, delineating concepts to stand for raw data, then making statements of relationship about those concepts linking them all together into a theoretical whole” (Corbin and Strauss, 2008: 106).

The contribute of the researcher’s interpretative capacity towards achieving an effective theory is acknowledged by Strauss and Corbin (1994:274), who purport that creation is a result of the “interplay with data and developed through the course of actual research”. This means that the emergence of a substantive theory – one that ‘fits the real world, works in predictions and explanations, is relevant to the people concerned and is readily modifiable’ (Glaser, 1978:142) – is dependent on the conceptual interpretation of data and their phenomena. After all, data in themselves do not develop alone into conceptual categories and into exhaustive detail of conceptual categories and their properties.

If the researcher has rigorously practiced Grounded Theory practice and principles, underpinning conceptual categories up to a core conceptual category, the consequent analytic product will be a substantive theory, that is, “a theory about the substantive area on which he/she have conducted research” (Lempert, 2007:246)

Emergent theory will subsequently be compared with conflicting or converging literature as a strategy to build internal validity, deepen insight, deliver sharper theoretical constructs and achieve a higher level of theoretical integration. The traditional role of literature review as an enhancer of theoretical sensitivity as opposed to the researcher’s intention to undertake the research with as few predetermined views as possible was already addressed in Section 2.2.1, but it is of value to reinforce the idea that emergent theory will be related to and reviewed against existent literature in the substantive area. This stage, further operationalised in forthcoming Sections 5.3, 5.4 and 5.5 will contribute to the discussion of findings, namely to assess whether the emergent theory extends, confirms or contradicts existing theories in the literature. Before operationalising this contrast with

the literature, Section 5.1 will integrate and portray the complexity and deeper textures of academics perceptions as conveyed by data in a Conditional/ consequential matrix (Strauss and Corbin, 1998), and Section 5.2 will present the narrative rendering of the emergent theory.

5.1 Integration of findings within a Conditional/ Consequential matrix

In building theory the researcher should aim at understanding the phenomenon under investigation as fully as possible, situating it within a complete range of macro and micro conditions in which it is embedded, this research made use of Strauss and Corbin's (1998) Conditional/ consequential matrix to diagrammatically represent the theory's narrative story and to successfully and logically access, integrate and portray the complexity and deeper textures of academics perceptions as conveyed by the findings presented in Section 4. The use of the Conditional/ consequential matrix had already been discussed in Section 2.2.2.8, when the stages of Grounded Theory data analysis were introduced.

Locke (2001), Goulding (2002), and more recently Charmaz (2006) concur in their appraisal of the Conditional/ Consequential matrix as a device that systematically leverages analysis and advances theory beyond the level of description. The matrix exists to track and detail the "various levels of influences upon the phenomenon under study" (Goulding, 2002:87), which can be of diverse nature: social, economic, historical, and philosophical. Locke (2001:77) sees in this connectivism, activated by the matrix, core elements of a sociological theory of action, especially the attempt to link micro and macro elements that have a bearing on the phenomenon, whereas Charmaz (2006:118) ascribes to the matrix the instrumental capacity of leading researchers to "think beyond micro social structures and immediate interactions to larger social conditions and consequences".

According to Hildenbrand (2007) this feature positions the conditional matrix as a social theory-building instrument able to capture the dialectics between agency and structure, because, as Strauss (1993:47) argues, "action is shaped by conditions but in turn is shaped by active actors". Such a consideration begs the analysis of structures as inherently

mutable, the changes being caused and rooted in the transactions and interactions continuously performed by actors.

In these principles lies Strauss' interactionist theory of action, placed at the intersection of the social environments' established elements and the contingencies and changes introduced by individual or collective action. For this reason, it would be insensitive to minimise structural conditions and overemphasise interactional data, as much as doing the reverse and pursuing an overvaluation of the conditional elements that can be woven into one's analysis of social worlds' phenomena (Strauss, 1987:78).

It is therefore expected that the conditional/ consequential matrix contributes to expand the dimensions of the analytic work, through a balanced representation of structure and process. Immediate and broader contexts of the phenomenon will be integrated in the analysis, contributing to a denser reconstruction of data, as the researcher will be able to identify patterns of interaction and establish connections to influential macro and micro conditions (Corbin and Strauss, 1996).

Using the matrix as a framework to analyse social processes of change permitted the localisation of a social world, understood in this research as a group "with shared commitments to certain activities, sharing resources of many kinds to achieve their goals, and building shared ideologies about how to go about" business (Clarke, 1991:131).

In this particular research, the social world is composed of Portuguese academics and their perception and attitudes regarding the adoption of e-learning. The data collected in interviews revealed the existence of what Strauss (1993:227) describes as "whirlpools of argumentative action" - a symptom indicating that social arenas disputing e-learning appropriation and embedding strategies are at interplay.

The matrix allowed the formulation of an explanatory sociological theory by relating "the context of conditions, one with the other, of a structuring process that is ongoing in the form of an arena within or between social worlds" (Hildenbrand, 2007:544).

In this specific case, the matrix reproduced in Figure 10 illustrates that the overcoming of actional-personal and structural-organisational barriers is a condition of trustful adoption of e-learning, following a progressive integration of: (1) individual academics' capacity to develop new insights and ideas concerning experiences of e-learning (trust to change); (2) academics' capacity – as a professional group - to achieve shared

notions of validity for e-learning experiences; and (3) the institutional capacity to embed e-learning in HEIs' structures, routines and strategies (trust to institutionalise).

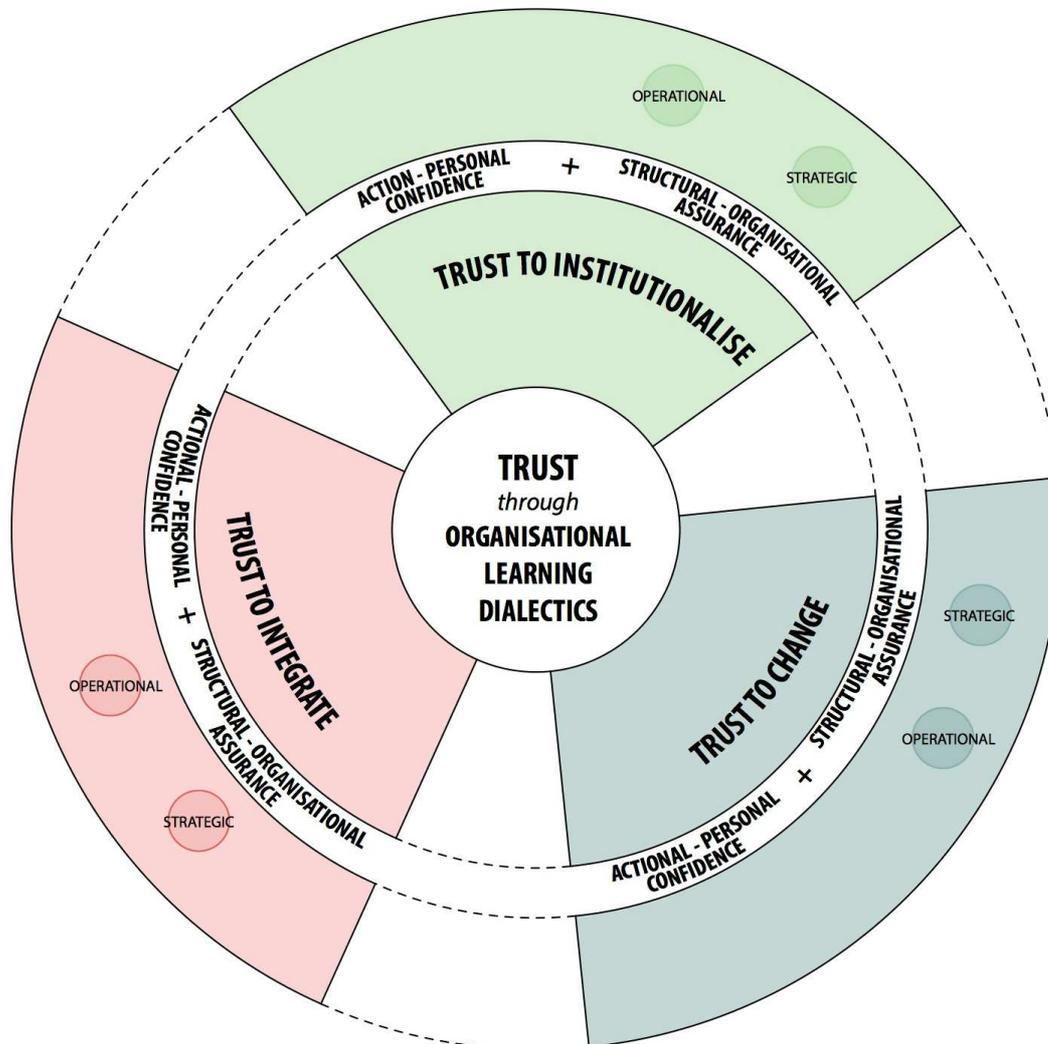


Figure 10 – The Conditional/ consequential matrix

The consequence – illustrated in the matrix (*vide* Figure 10) as the core where the confluence of causes meets - is the production of trust through organisational dialectics, a process of constructive negotiations and relationships where the management of HEIs and academics actively rely on each other to create conditions where mutual influence and benefit is possible, particularly at the level of organisational routines and procedures, performance appraisal, and reward.

5.2 The substantive theory of ‘Trust through organisational learning dialectic’

“What is most characteristic of our humanity is that we are dialogic or conversational beings” (Bernstein, 1983:141)

In this research, trust is argued to represent a psycho-social construct that may be beneficial in solving the apparent disconnect between academics’ self-interest and the adoption of e-learning in HEI.

Primarily responding to e-learning in terms of immediate self-interest – denoting an individualistic orientation that enhances personal outcomes - academics progressively extract relational information from organisational decisions and procedures that are being used to establish e-learning across HEI.

As such, academics infer their social and professional reputation, their degree of belongingness in each particular institution, their level of identity, and their degree of self-uncertainty within respective HEI from the perceived fairness of decisions and procedures, in the face of new occupational definitions, new languages to describe interactions with educational technology, new patterns of labour adjustment and adaptation.

Consequently, organisational procedures viewed as accurate, representative of academics needs and aspirations or as allowing voice opportunities are considered fair and self-validating at professional level. They are perceived to work as catalysts of e-learning adoption.

In opposition, strategies geared to the reinforcement of rules of governance and use of old technologies or no-voice granting decisions and procedures at organisational level are considered self-devaluating and unable to generate trust in e-learning.

Procedures enacted by the management of HEI regarding the diffusion of e-learning have the potential to significantly influence academics’ social self by affecting their concerns about professional reputation, their type of self-definition, and their degree of uncertainty when confronted with change in established practice.

Organisational decisions and procedures are expected to communicate information relevant to these features of academics’ social and professional self. Furthermore, they

seem to be seen as an input into academics' own personal values, goals and agendas regarding the adoption of e-learning.

This person-situated approach indicates that the psycho-social effects of organisational arrangements and decisions such as (un)fair reward depend on how academics interpret the situation, and such interpretations vary as a function of individual perceptions.

For example, if I am an academic who cares very much about career advancement, then procedural fairness translated into performance appraisals that effectively account for the scholarship of teaching may influence my reactions to e-learning, provided that organisational procedures indeed communicate information about rewarding online teaching.

There is then in place an interactional strategy between individuals and organisational arrangements. The theory proposed here seeks to understand regularities and consistencies in academics behaviour in terms of the interactive influence of dispositional and situational features. Consequently, the focus on motives is of particular interest when determining the concerns related to the professional self that determine academics' interest in and reactions toward the procedures undertaken by HEI management to diffuse e-learning.

Academics will interpret any given organisational arrangement or situation as a function of their own motivational orientations and, in turn, will be guided by the opportunities afforded and constraints communicated by those arrangements.

In other words, organisational arrangements guide academics in their actions and reactions towards e-learning and can be perceived as inputs to the personal agendas of the individual involved in the decision of adopting or not.

As long as the information derived from the organisational arrangements fits well with the needs and motives of the academics involved, then we are in the presence of a sufficient trusting state, which enables comfortable adoption of e-learning.

In this context, a motivational account to explain trust and the importance of procedural fairness effects has its validity, because organisational procedures do seem to communicate information that satisfies academics' risk assessment exercise, when considering the adoption of e-learning.

The information that is communicated by organisational procedures is of instrumental and non-instrumental nature. The instrumental dimension is manifested in both a distributive focus - in which academics assess outcomes and opportunities resulting from e-learning adoption – and in the amount of process control, i.e., the control over the manner in which e-learning mainstreaming decisions are taken. In this latter assertion, fair organisational procedures are functional to serve academics' instrumental desire for decisions that are beneficial for themselves. A satisfactory degree of process control is seen as an enabler of positive decisions, increasing the likelihood of positive outcomes and reducing detrimental consequences.

The non-instrumental nature of organisational procedures is no lesser in importance. It seems to impact on academics' sense of self-worth and need to be perceived as respected members of their community. Organisational procedures considered to be fair hold a pro-social value orientation and are focused on enhancing collective outcomes. Moreover, they are perceived to be catalysts of cooperative behaviour and harmonious interpersonal relationships between academics.

In either case, organisational procedures motivate or discourage academics by communicating information relevant to their needs and drives in such a vivid way that individuals are likely to be motivated on behalf of the HEI if the HEI offers evidence of being motivated on behalf of them.

This speaks chiefly to the importance of strategy in tempering the target, scope and degree of challenge to organisational practices that is introduced by e-learning in HEI.

The data collected revealed that academics feel HEI are living a period of crisis and high anxiety brought along by the restructuration of curricula, by a paradigmatic shift into student-centred learning, and by growing demands to adopt e-learning.

Simultaneously, HEI administrative structures are characterised by rigid hierarchies and decision-making has historically been concentrated in a small circle of senior management.

Introducing e-learning vertically does not seem viable, as it may be perceived as an overly radical initiative, leading to high polarisation (hostility between adopters and non-adopters) or shutdown (radical noncompliance and persistence of old practice).

Breakdowns naturally occur when there is a rejection of e-learning by academics. This can be the consequence of resisting or refusing to follow a planned process of change.

Teleological approaches to e-learning implementation have failed because they are grounded on the erroneous assumption that it is enough that a small group of agents agrees and moves on toward universal adoption as a shared organisational goal.

In reality, the sequences of goal formulation, implementation, evaluation and modification are not attended equally by all stakeholders, which results in many of them not initiating efforts to change because their action thresholds have not been activated. Many of them simply do not recognise the need for change and are satisfied with existing conditions. Others are ignorant of opportunities, problems or threats.

However, what becomes apparent is that there is no real consensus on e-learning adoption as goal. It can also happen that adoption plans or goals are faulty because of bias in decision-makers' judgement and consequent adherence to a failing course of action.

Similarly, passive compliance to mandated change by a deciding authority results in doers realising that the prescribed change process is not suitable for local adaptation and, therefore, it does not fit to context and local teaching situations. Academics feel diminished in their autonomy, which they define as the capacity to customised mandated guidelines.

Consequently, rule-bound approaches to e-learning implementation often result in blind compliance to technical specifications, rather than internalisation of motives. This can present several dangers to HEI, namely the sabotage of rules that are perceived to be wrongly designed, or the perpetuation of cycles of poor outcomes under the illusion that everyone has adhered to e-learning.

On the other hand, decentralised approaches tend to foster an evolutionary take on the development of e-learning across niches of HEI. The data collected features several examples of departments competing freely for opportunities and resources to develop e-learning. However, these remain the preserve of enthusiasts and also fail to mainstream.

There are meanings to be extracted from this rejection of closed processes of planned change that subjugate academics to following mandates in a lifecycle of regulated adoption, or the lack of consistency attributed to evolutionary e-learning projects that simply fail to escalate.

It is possible to infer that academics prefer dialogic authority to blind deference. A possible solution may then involve ongoing reflection and judgement and the constitution of dialogic spaces, conceived as arenas where academics can build their own perspectives

and where they come to share, exchange and debate the most suitable approaches to adopting e-learning.

Such an organisational arrangement promotes critical pluralism and engages academics in challenging the dominant perceptions of managing authorities, whose viewpoints are usually elevated to the status of universal norms and prevailing morality.

A viable alternative may consist in affirming differences while linking individuals in a process of institutional dialogue, where various narratives interrogate each other. Academics would then be able to articulate a positive identity whilst opening their various interests for critical examination and interrogation. This would force both academics and managing authorities to critically reflect upon their own particularities and contingencies.

There are naturally institutional limits to engendering dialogic spaces that are committed to producing understanding. In the first place, there is the necessity to reach decisions, but these should not foreclose debate prematurely. The organisational learning dialectic is essentially unfinalisable, which prompts agents into the possibility of forward movement, the constant problematisation of the status quo and the examination of organisational reality through ongoing questioning and revision.

This requires the voluntary engagement of management and academics in an exercise of transformative politics via the introduction of a new visibility, i.e. the surfacing of organisational tensions and contradictions, and previously unstated values or hidden commitments.

Change capabilities and attitudes towards the introduction of e-learning therefore necessitate a transition from a monologic into a dialogic state, in which e-learning is fully problematised.

Problematisation means exposing and relating it with taken for granted or normalised organisational arrangements, hence the considerably disruptive power of the organisational learning dialectic proposed here.

Both academics and the managing authorities of HEI need to look at the limitations and possibilities for praxis introduced by e-learning. This is only possible under an institutional arrangement that respects the capacity for human agency, and the possibility for heteroglossic discourses regarding what it means to be a good academic under the affordances of e-learning.

Additionally, this demands the recognition that material structures and power structures may operate as barriers, hence the need to stimulate collective inquiry, negotiation and consensus building as a means of enabling managers and academics to reflect about e-learning as a common area of concern.

The expectation is that the clash of polarities evidenced in the data collection operates as a trigger for change, bringing heretofore latent forces – either anchored in or contesting historically constructed inconsistencies – and engaging them in the dialectic reconfiguration of organising procedures to accommodate e-learning.

The objective is to spur trust in e-learning through organisational learning, which entails creating and diffusing knowledge across HEI, and developing satisfactory social exchange mechanisms that act as trust catalysts. To accomplish this end, it is necessary that both academics and managing authorities appreciate and value the current aspects of HEI (what they are), envision what they might be, dialogue about what they should be, and innovate about what they will be.

The central argument is that to maintain viability and thrive in the new knowledge economy, HEI must employ effective learning processes. HEI should remain open systems and their prosperity depends on their ability, as organisations, to learn and adapt to threats and opportunities presented by dynamic external environments, in particular the reported growing pressures to adopt e-learning.

Consequently, organisational learning is understood here as an inherently complex adaptation process. It requires the conjunction of networks of individuals and groups – often with conflicting views - but also the conjunction of functions and processes.

It is a means of achieving strategic renewal through making adaptations to objectives and routines. It may additionally entail readjusting goals, governance and operational rules. By engaging academics and managing authorities in appreciative inquiry of the aforementioned conditions, it potentially contributes to the processing of information that changes and aligns the range of behaviours.

Ultimately, the process is geared towards generating plurivocal understanding and harmonised outcomes regarding e-learning. What prevails is therefore an instrumental and output perspective on dialogical practice, the objective being the rationalisation and aggregation of collective views into a coherent whole. What changes as a result of the organisational learning process is academics' behaviour and cognitive system. Trust in e-

learning as a desired state or behavioural change goal occurs with negotiated changes to organisational routines and HEI's standard operating procedures.

This is essentially a reflection strategy that emphasises how academics as change agents make sense and socially construct understandings of the buzzing changes they experience when confronted with e-learning. The organisational learning endeavour is a meaning-making exercise, with a view to changing mindsets through the revision of structures, procedures and behaviours. Getting academics to share and socially construct cross-understandings and shared understandings of e-learning will increase the likelihood of collective learning and help manoeuvring the change journey.

However, strategic renewal as a consequence of e-learning adoption is complicated, as it depends upon individual, jobs and structural characteristics, as well as on existing culture and reward/ recognition systems. The contention here is that HEI will become more apt at managing the change introduced by e-learning as they adopt practices to promote the dynamic move of knowledge repertoires through a series of evolving stages involving the individual academic, academics as a professional group and the wider HEI as an organisation.

This is achieved through negating the traditional bureaucratic structure in which individuals had no space for learning and were consequently tied up to a repetitive set of forms, rules, conventions, activities, technologies and procedures that underpinned organisational functioning.

An organisational learning dialectic is aimed precisely at developing the knowledge base necessary to question the repetitive set of organisational activities and existing protocols.

Critical aspects of cultural analysis are essential in this questioning. It is especially important to: (1) establish and question which discourses are more visible and accorded most power by groups; (2) understand how academics are represented within HEI; (3) elucidate what borders define the territories of academic practice, including what identity is constructed for those within such borders; (4) determine what cultural capital is attributed dominant status.

Academics weigh up evidence from these multiple sources in the aggregate to make their decision as to trust or not in e-learning, acting as auditors of the trustworthiness instilled by HEI's decisions, arrangements and organising procedures.

This is the main reason why the organisational learning dialectic should seek to identify the larger problems in academics' work lives and environments, with a view to making local productive changes in dysfunctional patterns of e-learning appropriation.

A focus on academics' interests will link cognition at individual, group and institutional levels and help HEI to find, select and organise both information and expertise needed to achieve organisational vision and integrated action.

The approach starts with academics' articulation of their experiences with e-learning. They then move on to problem identification from those experiences, they gradually progress to critical analysis of forces contributing to problems, and finally they collaborate with managing authorities to action responses to address the problems detected.

What the theory presented in this chapter suggests is that trust in e-learning does not occur spontaneously inside HEI, rather being linked to the tripartite process discovered during the selective coding of data:

- Trust to change ignites at individual level, and it is related to motivation and shared causal beliefs. These can be derived from the analysis of academic practice, which serves as the basis for elucidating possible actions and outcomes related to e-learning adoption.
- Trust to integrate refers to shared notions of validity, whereby academics inter-subjectively define criteria for weighing and validating e-learning experiences.
- Trust to institutionalise refers to a shared set of normative and principled beliefs, which provide a value-based rationale for adoption, sustained by common policy enterprise.

Thus, a mix of informal and formal structures is necessary to manage risk and uncertainty when endeavouring to develop e-learning. Trust in e-learning is achieved when HEI provide fora for systematic learning, i.e., the opportunity to reflect on fundamental values and purposes, to identify points of convergence and conflict with e-learning until the purpose, value and process of e-learning becomes ingrained in the normal conversations of HEI. At this stage, learning conversations have become part of the political process of the organisation. Democratic reflexivity and critical pluralism will not cease to engage academics and managing authorities in the continuous problematisation of the *status quo*, and in the explicitation of extrinsic and intrinsic rewards.

In terms of grand theory, there are strong conceptual links between the theory advanced here and the theoretical conceptions of “organisational learning” (Easterby-Smith, 1997; Easterby-Smith et al., 1998; Edmonson and Moingeon, 1996; Kluge and Schilling, 2003; Nicolini and Mezner, 1995), particularly the definition advanced by Schilling and Kluge, 2009:338):

“We define organisational learning as an organisationally regulated collective learning process in which individual and group-based learning experiences concerning the improvement of organisational performance and/ or goals are transferred into organisational routines, processes and structures, which in turn affect the learning activities of the organisation’s members”.

This definition conveys an idea that is central to the substantive theory presented in this section: the fact that individuals and the organisation where they are embedded are mutually dependent (Popper and Lipshitz, 2000), to the extent that changes in individuals’ knowledge and skills (Weiss, 1990; Dodgson, 1993) impact organisations in their dual role as (1) social systems, aggregations of individuals pursuing common goals, and as (2) a body of structures and rules that regulate behaviour in the workplace”.

However, the theory that emerges from this research is not grand in its scope. Its ambition is not to advance an explanation that fits with all organisations, rather the specific context of e-learning adoption in Portuguese HEIs, as perceived by academics. Nevertheless, similar conclusions about the management of e-learning adoption in campus universities have been achieved by Goolnik (2012:16), who refers the importance of empowering staff and encouraging participation, “aligning individual motivations and concerns with organisational goals to develop engaging policies and practices”. An earlier study conducted by Russel (2009) about the introduction of e-learning in an Australian campus-based university concludes in the same vein, emphasising that the “systemic transformation of a university’s learning and teaching requires coordinated change across activities that have traditionally been managed separately in campus universities” (Russel, 2009:3).

The comparison of the substantive theory of ‘Trust through organisational learning dialectic’ against existent models and theories cannot be restricted to the studies

introduced in the previous chapters. Accordingly, the forthcoming sections contrast the narrative explanation of the emergent theory with thematic clusters of previous theory and existent predictive or explanatory models to determine lines of divergence or convergence. Section 5.3 exposes the insufficiencies of traditional technology adoption models, arguing that only an inductive and interpretive approach to theory building – such as the one exemplified by the research undertaken in this dissertation – can inform practitioners about the nuanced complexity of technology adoption as perceived by potential users.

Section 5.4 establishes the conceptual convergence of the emergent theory with three different qualitative studies: (1) McPherson and Nunes' (2006, 2008) critical research approach, which aimed at identifying critical success factors for e-learning implementation in HE, from a holistic, consultative and emancipatory perspective; (2) Parchoma's (2009) social constructivist philosophical stance, which resulted in a thick description (Merriam, 1998) of academics' constructs of to what extent e-learning "commodities add value to or erode the quality of teaching and learning experiences" (Parchoma, 2009:8); and (3) Hardaker and Singh's (2011) use of structuration theory (Giddens, 1984) to explore and frame the factors that influence the adoption and diffusion of instructional technology at five prominent universities in the United Kingdom.

Finally, Section 5.5 relates the emergent theory to sociological theories of trust and to theories of organisational trust management (Blomqvist and Stahle, 2000; Sydow, 1998, 2006), with a particular emphasis on the articulation between trust as something developed by reference to institutional arrangements, and trust as something that depends on individuals' interactional and communicative skills.

5.3 Relating the emergent theory to traditional technology adoption models

Information systems research has traditionally been concerned with understanding individuals' willingness - or unwillingness - to appropriate systems with expected beneficial impact: "as well as representing a large lost investment, the unrealised potential of a system

can be monumental. In extreme cases, unused information systems may impact the viability of an organisation, if the particular information system is deemed a necessity" (McFarland and Hamilton, 2006:441). E-learning in the HE context, representing a form of technology-mediated learning is not an exception.

What follows next is a review of technology adoption models commonly used for predicting and explaining the adoption of information and communication technologies. But before moving on to a closer appreciation of technology acceptance theories, it is important to understand what the literature defines as the typical steps in technology diffusion processes. According to Rogers (1983), in the context of innovation research, technology diffusion refers to the "process by which an innovation is communicated through certain channels over time among the members of a social system".

To facilitate the understanding of the diffusion process, Prescott and Conger (1995) propose a two-staged conceptualisation consisting in adoption (comprising the tasks of knowledge acquisition, persuasion and learning), and implementation. However, they propose that several other factors directly influence the diffusion process, namely the characteristics of the innovation, the social system, and the communication channels.

Other authors concur with the conceptualisation of technology adoption within organisations as a two-step process (e.g. Leonard-Barton and Deschamps, 1998; Lucas et al., 1990), in which initially the decision to adopt is made on management level, followed by the *de facto* introduction of a specific technology to the workplace.

The later stage can be shaped by managerial decision in different ways. Gallivan (2001) suggests that organisations can choose from several actions leading to implementation, more specifically (1) mandating that a specific innovation is adopted uniformly by all users, (2) allowing the innovation to diffuse voluntarily whilst providing infrastructure and support to users, (3) and the selection of specific pilot processes deferring the decision to escalate for a later moment.

But the centrality of 'acceptance' as a trigger to effective diffusion is better emphasised by Saga and Zmud's (1994) three-staged model of information technology innovation. In this theoretical model acceptance is the first step affecting use. In turn, use affects routinisation, and routinisation affects infusion.

Nevertheless, one of the pioneering and most prominent studies of adoption is Roger's Innovation Diffusion Theory (1983). The theory, based on Roger's observation of

innovation diffusion over nearly 30 years, proposes a five-stage model (knowledge, persuasion, decision, implementation, confirmation), describing the process by which an innovation is communicated among the members of a social system (Benham and Raymond, 1996).

Another feature of the model is the definition of intrinsic characteristics of innovations that influence potential users to adopt or reject it. A good summary of the stages is offered by Barnes and Huff (2003). First individuals consider the innovation's relative advantage or in other words, the degree to which it is perceived to be better than the practice it supersedes. Then individuals consider the extent to which adopting the innovation is compatible with existing practice. The following stage is an assessment of how easy or difficult the innovation is to understand and use. What follows is the appraisal of the degree to which an innovation may be experimented before making an adoption decision. Finally, a decision depends on the degree to which the results of the innovation are visible to others.

The Innovation Diffusion Theory served as the basis for several other models in the area of technology adoption, including Moore and Benbasat's (1991, 1996) survey-based belief scales, which were specifically customised to accommodate the issues of information adoption and diffusion. Furthermore, variations of the Innovation Diffusion Theory have been applied to several contexts, such as enterprise resource planning systems (Bradford & Florin, 2003), electronic business in European companies (Zhu et al., 2006), and electronic procurement (Li, 2008) in Chinese manufacturing enterprises.

Another model developed in the same period as the Innovation Diffusion Theory is Fishbein and Ajzen's (1975) Theory of Reasoned Action, which is a social psychology model devised to describe the determinants of consciously intended behaviours (Benham and Raymond, 1996). According to Mao and Pelvia (2006) the model focuses on predicting behavioural intention and actual behaviour, based on behavioural beliefs and subjective norms.

In the specific context of technology adoption, the Theory of Reasoned Action postulates that use is influenced by the user's behavioural usage intention, which in turn is dependent on his or her attitude towards the use of the technology, as well as on the social environment's predominant subjective norms (Barnes and Huff, 2003).

Several studies have successfully applied the Theory of Reasoned Action to predict behavioural intention in technology acceptance: Sheppard et al. (1998) conducted a meta-analysis of the theory's application to consumer behaviour; Bobbitt and Dabholkar's (2001) study used the theory to understand and predict the use of technology-based self-service; Davis et al. (1989) employed the theory to understand user acceptance of computer technology; and Yoh et al. (2003) investigated online apparel shopping.

However, a common limitation across these studies based on the Theory of Reasoned Action is the assumption that when someone forms an intention to act in a certain way, they will be free to act without limitation. This certainly is not the case with e-learning adoption in Portuguese HEIs, as consistently reported in this dissertation's findings chapter (Section 4). In practice academics refer constraints such as limited ability (*vide* 'Lack of functional and technical expertise' – Section 4.2.1.1), time (*vide* 'Temporal frames of work' – Section 4.1.1.2), organisational limits (e.g. 'Outdated management-held core values' – Section 4.1.2.2), and even unconscious habits (*vide* 'Misconceptions of successful adoption' – Section 4.3.1.2) that limit the trustful adoption of e-learning.

Ajzen and Ajzen and Madden (1986) proposed an extension to the original Theory of Reasoned Action. In adding the variable of 'perceived behavioural control', they advanced the Theory of Planned Behaviour. The new variable measures an individual's perception of control over performing a given behaviour (Rawstorne et al., 2000), and the overall model postulates that the intention to adopt a specific technology is determined by three factors: the user's attitude, his or her subjective norms and the perceived behavioural control (Benham and Raymond, 1996).

The Theory of Planned Behaviour has been used as the basis theory in several technology adoption contexts to predict and explain individual behavioural intentions, or self-reported behaviour both from a consumer and an organizational perspective: Brown and Venkatesh (2005) studied the adoption of technology in households; Chau and Hu (2002) investigated the healthcare professionals' decisions to accept telemedicine; Gentry and Calantone (2002) looked at the specific context of electronic commerce; Liaw (2004) applied the theory to the study of behavioural intentions to use search engines as a learning tool; Pedersen (2005) studied the adoption of mobile internet services; and Venkatesh and Brown (2001) used the theory to understand the use of personal computers in homes.

However, there are several limitations of the Theory of Planned Behaviour, which some constituent elements of the substantive theory of 'trust through organisational learning dialectic' - presented in Section 5.2 - seem to address more effectively. For example, a fundamental assumption of the Theory of Planned Behaviour is that individuals have acquired the opportunities and resources to be successful in performing the desired behaviour. However, in the specific context of e-learning adoption by academics in Portuguese HEIs, opportunities such as training (identified in the barrier of 'inadequate specialised services' – Section 4.3.3.5) or supportive peer relations (identified in the barrier of 'lack of organisational homophily' – Section 4.3.2.6) are perceived to be missing, thus contributing to lower levels of trust in e-learning.

Similarly, the Theory of Planned Behaviour does not seem to account for other variables that may factor into behavioural intention and motivation, such as fear (illustrated by the barrier of 'fear of administrative control' – Section 4.3.2.1), or past experience (illustrated by the barrier of 'past experiences of failure and conflict' – Section 4.3.1.3).

On the other hand, the Theory of Planned Behaviour does consider normative influences as a key variable. However, it still does not take into account environmental or economic factors that may impact an individuals' intention to perform a specific behaviour, such as governmental imposition (vide 'governmental patronage' – Section 4.1.2.4) or market pressures (vide 'market-driven adoption' – Section 4.1.2.5).

Finally, another significant limitation of the Theory of Planned Behaviour is its assumption that behaviour is the result of a linear decision-making process and, that it does not change over time. This represents another fundamental incongruence and therefore incompatibility with the idea of incremental adoption of e-learning by academics, expressed in the trust barrier 'insufficient incrementalism' (*vide* Section 4.2.3.3).

5.3.1 The Technology Acceptance Model

A very significant stream of information systems research has employed the Technology Acceptance Model (TAM) to explain technology acceptance behaviour and understand the adoption of various categories of innovations and technologies. After conducting a review of

345 articles on innovation adoption, acceptance and diffusion – published in 19 peer reviewed journals between 1985 and 2007 – Dwivedi et al. (2008) confirm this trend: “findings suggest that the positivist paradigm, empirical and quantitative research, the survey method and TAM theory was used predominantly when investigating the topics of adoption and diffusion of technology”

Originally developed by Davis (1989), the core formulation of TAM argues that an individual’s behavioural intention (BI) to adopt or use a system or technology is directly linked to the perceived ease of use (PEU) – i.e. the degree to which someone considers the use of a particular technology as simple. PEU also influences the individual’s perceived usefulness (PU) - i.e. the degree to which someone expects a technology to enhance their job performance - which, through this mediated relationship, affects BI. Because it deals with beliefs, this theoretical model has been widely used by researchers to map individual decisions of information technology adoption (Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003; Yi et al., 2004).

TAM-inspired adoption models have also been applied to the educational field, examining factors related to the appropriation of information technologies or developing factor analysis for prediction of the acceptance of ICT innovation in educational contexts. Sumak et al. (2011), for instance, conducted a meta-analysis of 18 e-learning acceptance studies (a total of 8133 observations) that used TAM as the base theory for an investigation of factors that impact on learners’ adoption of e-learning technology. By performing a statistical pooling of results they reunited evidence that supports the claims that PU is a strong direct or indirect determinant for learners’ adoption of e-learning. They were also able to demonstrate that the use of an e-learning technology is predicted by PU and BI.

Furthermore, a considerable stream of research has recently focused on identifying factors that can explain instructors’ use of e-learning environments in HEIs. That is the case of research conducted by Gibson et al. (2008), Mahdizadeh, et al. (2008), Park et al. (2008), Turan (2008) and Walker and Johnson (2008), who strive to find evidence to confirm original TAM findings or propose an extension of the model through adaptation and incorporation of new constructs. Walker and Johnson (2008), for instance, extend the original TAM model by adding the constructs of computer background management support. Park et al.’s (2008) study extends the original TAM model by testing the constructs of motivation to use the system, compliance with school policy, instructional technology clusters, evaluation of

functions and current system use. Mahdizadeh et al.'s (2008) study extends the original TAM model by incorporating the constructs of knowledge construction, teaching and learning approach, teacher's opinion about computer-assisted learning, and teacher's opinions about web-based activities.

A more recent instantiation is offered by the study conducted by Al-alak & Alnawas (2011), in which TAM was applied to understand Jordanian lecturers' attitudes towards the adoption of e-learning systems. In this study, TAM's traditional constructs were supplemented by the following factors, later confirmed as influencing users' behavioural intentions towards adoption of a new e-learning system: experience (Parthasarathy and Bhattacharjee, 1998; Cho and Kim, 2002), computer anxiety and computer knowledge (Venkatash and Bala, 2008; Rovai and Childress, 2002; Delcourt and Kinzie, 1993), normative pressure (Nysveen et al., 2005), and management support (Chatterjee et al. 2002; Liang et al., 2007).

The quantitative analysis of data contained in these studies substantiates the conclusion that TAM is a robust predictive model. Also, studies confirm the reliability of TAM measures (PU, PEU and BI) and the strength of the correlations amongst constructs. Conclusions globally stress the profoundness of the influence of perceived usefulness on behavioural intention (it emerges as the most influential predictor), though a much more moderate association seems to occur with the direct effect of PEU on BI.

These expanded models allowed researchers to test potentially important relationships not specified in the original TAM. Many of these relationships stated above find close matches to some of the emergent categories inductively discovered in this research: e.g. "management support" in Chatterjeet et al. (2003) is similar to "lack of a clear mandate for implementation" (*vide* Section 4.3.3.2); "computer anxiety and computer knowledge" in Venkatash and Bala (2008) is similar to "lack of functional and technical expertise" (*vide* Section 4.2.1.1); "teaching and learning approach" in Mahdizadeh (2008) is similar to "occupational mindsets" (*vide* Section 4.1.1.8).

However, these parsimonious constructs in TAM-based studies remain excessively focused on the ways in which the features of a new technology interact with the individual psychology of adopters. As a consequence, it is often forgotten that institutional innovation adoption processes – such as the adoption of e-learning by academics in the context of HEIs – is dependent on organisational members being convinced that institutional arrangements

within the organisation will legitimise and support adoption. This is precisely where the proposed theory of “Trust through organisational learning dialectic” complements and extends the findings typically advanced by studies that test technology adoption models.

Furthermore, because of the heavy reliance on a priori postulates of usefulness and ease of use, and the methodological dependence on measurement scales predetermined by the researcher - who in reality decides which type of usage is being assessed throughout empirical questionnaires - TAM is blinded and to a great extent insensitive to the users’ principle of self-determination, creativity and choice of intermodal and multipurpose use.

Different technologies may serve uses not foreseen and be perceived differently according to mutable contexts and degrees of appropriation, resulting therefore in non-anticipated scenarios, for which TAM’s constructs or model extensions will not suffice. This insufficiency and lack of open-endedness of TAM is denounced by Salivary and Tammie (2009), who argue that “the relationships between system’s functionalities and user’s tasks may vary between users and serve completely different ends than expected by the researcher”.

Notwithstanding, TAM studies insist in measuring instructors’ self-reported use as extent or frequency (failing even to do it over time, in multiple measurement points), which configures a narrow perspective of system use and gives rise to over simplistic generalizations on how systems are used. Bensabat and Barki (2007:15) therefore lament that “IT acceptance is predominantly about predicting a particular mode of use (i.e., degree or amount of use)” and propose a broadening of perspectives by focusing on “users’ adaptation, learning and reinvention behaviours around a system”.

TAM’s strong emphasis on cognitive processing of behaviour, detached from social contexts of use and unaware of users’ interpretative heterogeneity is perhaps the product of its alignment within the positivistic tradition, “that advocates hypothesis creation and testing rather than a more descriptive” and qualitative approach (Salovaara and Tamminen, 2009). Pursuing a similar argument, Bagozzi (2007: 247) claims that TAM is largely conceived as a “framework for explaining decision making by individual persons”, failing to apprehend collective intentions and “group, cultural or social aspects of decision making”.

Consequently, the design of TAM-based theories of e-learning acceptance - deriving from a functionalist approach and relying in utility-oriented objectives – may produce skewed outcomes such as the “intensive focus on the prediction or explanation of a single

behaviour conceptualized in a narrow manner, i.e., system use defined and operationalised as an amount or frequency” (Bensabat and Narki, 2007:213).

The dominance of TAM as a deterministic theoretical paradigm suited to perform cognitive calculations aimed at determining users’ intention to act in a given situation should be questioned. It is possible to argue that TAM prescribes the measurement of perceptions and intentions as natural science phenomena, limiting the breadth for human agency, and ignoring the importance of the social context: TAM’s constructs explain behaviour as “physical processes going on in the brain in the form of either automatic reactions to outside stimuli or hard-wired responses following law-like information processing” (Bagozzi, 2007:250).

5.3.2 Overcoming single behaviour-focused prediction by looking at the context

The apparent incapacity of TAM as a theoretical model to focus on and to fully grasp users’ negotiation of meaning and attitude formation about a system is echoed in the literature. Straub (2009:641) alerts for the fact that no model can fully account a priori for the variety of aspects that mediate and moderate the use of technology, particularly social interactions: “personal factors, characteristics of the innovation, and influences of the individual’s context will all shape the ultimate decision and persistence with a technology. (...) Technology adoption is innately social, influenced by peers, change agents, organisational pressure, and societal norms”.

Consequently, manifesting cognitive understanding about the usefulness of e-learning (as accounted for by TAM) may not lead to successful adoption if, for example, instructors consider that their institutions do not support them enough in terms of time, resources or reward, as demonstrated in this dissertation, and as purported by previous research (e.g. Barnes, 2005; Owston, 2007).

In face of these shortcomings and criticisms, research concerned with academics’ e-learning adoption should be aimed at understanding how practice behaves instead of

investigating if practice behaves in a specific anticipated way, determined by a theoretical explanatory (and, most of the times, confirmatory) model of technological diffusion, infusion and adoption.

Departing with such a mind frame undermines the purpose of understanding e-learning adoption as a human activity system development – a contextual reality situated at the crossways of pedagogical, cultural and organizational continuums - and gives the researcher unwanted control over pre-set verifiable hypotheses and the possibility to manipulate extraneous factors that may misrepresent reality.

Confronted with this duality of methods (interpretive versus experimental), when endeavouring an understanding of phenomena to compare issues and interrelationships, an open approach that invites data material to speak and subjective manifestations to come forth should be preferred. It may only generate local empirical theories, but results will be sufficiently “grounded directly in the observed data, instead of being produced by deduction or other intellectual experiments” (Hansen and Kautz, 2005:4).

Rather than stressing scientific generalisability, the focus here is on contributing, by cumulation and variability of insights, to a vaster body of knowledge, with “explanations of particular phenomena derived from empirical interpretative research in specific IS settings (...)” (Walsham, 1995:74-81).

The way academics initiate, maintain or disrupt the use of e-learning systems and how they embed them in their teaching practice is the product of their very own pragmatics of practice, which cannot be separated from individual reflexivity or situational context. This is mainly the reason why a theory of perception and adoption needs to be anchored in the labour of ground, so that it can provide thick contextual descriptions.

As Walz argues (2005:123), “individuals negotiate, choreograph, describe, perform, and thus cultivate close and distant relationships not only with one another, but also with everyday artifacts and their everyday environments”.

It is precisely the vitality emanating from respondents’ accounts that gives explanatory theories the “form of (an) experience map” (Coleman and O’Connor, 2008:781) and a more accurate, dynamic depiction of what is actually going on.

In this sense, the substantive theory of ‘Trust trough organisational learning dialectic’ translates this dissertation’s contribute to understanding of how Portuguese academics’ individual negotiations of meaning occur, and to expanding theoretical and

practical understanding of the trust/ risk micro-environment within which e-learning adoption takes place.

These are human relations issues, hardly apprehensible by means of quantifiable parameters. However, they can be related *a posteriori* to baseline work on perceptions of technological innovations. A good instantiation of this is Hagner & Scheebeck's (2001) interpretive study of academics' engagement with educational technology at the University of Hartford, USA. An important claim in this study is that if HEIs want to avoid resistance to technological innovation, then they need to determine their particular academic staff mix, with a view to strategically plan appropriate support.

Hagner & Scheebeck's (2001:2) findings, based upon "intensive interviews with 240 faculty" strongly suggest that academics tend to "demonstrate predominant characteristics" of the typology of technology users described in Roger's (1995) theory of diffusion of innovations.

In Hagner & Schneebek's (2001:3) study, the "first wave" of e-learning users or early adopters was associated to "professors who represent the vanguard of innovation in teaching and learning" with technology, whose work "tends to be idiosyncratic" and not easily scalable. In this dissertation, they match the description of the techno-enthusiast contained in Section 4.1.1.1, which provides an inverse definition of 'insufficient intrinsic motivation' as a barrier to trust in e-learning.

The "second wave" or "risk averse" appears to relate to professors who despite being committed to what they understand as quality teaching, often lack "technological expertise", being hesitant to "become engaged in the process of self-examination", and afraid their current teaching "will not translate into the new teaching environments" (Hagner & Schneebek, 2001:3). In this dissertation, such a kind of resistance is mapped and well documented in the citations that illustrate the trust barriers of 'lack of functional and technical expertise' (Section 4.2.1.1), and 'technological determinism' (Section 4.1.1.7).

The motivation of the "third wave" or "reward seekers" is "closely tied to the university's reward structure". These are academics that will be more willing to transform "when they view adoption of new technology and learning techniques as having a positive impact on tenure, promotion, and salary decisions" (Hagner & Schneebek, 2001:4). Again, the findings in this dissertation feature very similar attitudes, as conveyed in the barriers

'insufficient reward' (Section 4.3.3.2), and 'self-interest and opportunistic behaviour' (Section 4.2.1.5).

Finally, a group of "reluctants" have been identified as those who "firmly believe that traditional models of learning are superior" (Hagner & Schneebeck, 2001:4), at the same time being fearful that their "jobs are going to be replaced by the adoption of technology" (Olcott & Schmidt, 2000:262). Within this dissertation, the same fears and the same patterns of resistance can be traced down to the data coded under the trust barrier 'epistemological disagreement' (Section 4.1.1.6).

5.4 Relating the emergent theory to contextual models of e-learning adoption

The research presented in this dissertation has attempted to give voice to academics' perceptions of e-learning institutional embeddedness, enabling theory to emerge from lived realities and cognitions. The findings exposed in Section 4 contain useful lessons with significant resonance in change management and in the processes of Higher Education Institutions transition to the digital paradigm.

A major emergent focus and recurrent theme in this study was that Portuguese HEIs with a centrally-controlled, closed and rigid e-learning embedding strategy will have to consider measures of alleviation by (1) preserving the linkage between academics' commitment and a sense of identity and individual esteems; (2) understanding that the design and planning of e-learning solutions has to be harmonised with academics' objectives and aspirations rather than deriving from an institutionalised interpretation of the technological capacities delivered by the system; and (3) trusting academics' agency and resilience, discarding the engineering of alien organisational job roles.

HEIs are, by their tolerant and individualistic nature, aggregations of interventions authored by a collection of academics and respective inventories of teaching styles. Because they are so diverse and because academics' autonomy is a last resort and unalienable prerogative, such interventions are continually altered, repossessed and discarded, with

little or null accountability. Discipline and an entrenched sense of profession contribute to academics feeling “offended by the rigid structure (...) of imposed e-learning platform(s) that are driven more by regulation than good pedagogy” (Hanson, 2009:557-562).

Academics’ ontological security lies on their capacity to access and articulate an appropriate pedagogical language. E-learning and a correlated “growing emphasis on performativity and accountability” (Hanson, 2009:554-58) challenge this established identity by pushing academics to cope with a mandated reality without the usual rehearsal of educational interventions or a “safe refuge in which to explore new practice and an opportunity to develop practice based on principles that are pedagogically defensible”, thus leading them to fear greater direction over teaching.

Not surprisingly, a “non coercive approach” linked to personalised methodologies and strategies can help avoid jolt or disruption to academics’ trajectories and sustained self-narratives, fostering “personal incremental changes of the academics themselves” call on e-learning voluntarily (Stoltenkamp and Kausto, 2009:721-722).

This normalisation of e-learning at the teaching practice level expects of academics the embedding of technological affordances into the pedagogical model employed and proceeds by small-scale, personalised developments (Rich and Holtham, 2005), enabling the contextualisation of change. Armellini and Jones (2007:68) praise the incremental nature of this approach, “gradually engaging all members of staff, through the choice of easy to use technologies and investment in course-team and departmental learning” and allowing academics to increase technological capacity and conceptualise tools and preserve ownership over content.

There are however vulnerabilities related to this “funnel model to promote an institutional wide culture by initially focusing on small interested groups and gradually engaging a wider group”, as critically outlined by Jones et al. (2009:19), when they alert for the possibility of cyclically engaging converted staff, therefore excluding other academics from development opportunities and ignoring the complexity of adoption as an organisational process.

To avoid divergence and tension between managerial and academic practice, devolution should increment disciplinary-driven innovation and endeavour what Snyder et al (2007:200) characterise as the “alignment of planets”: the generalisation of technology-mediated pedagogical initiatives through incentives and the secure enabling of conditions

for academics' creativity and productivity i.e. "resources, systems, discursive practices and other conditions that facilitate complementarity" between innovations across the institution and compatibility of values and goals.

This presents a challenge to the Portuguese academic environment, as relying only on pockets of excellence lead by e-learning enthusiasts brings about institutional costs related to directionless process perspective and increased difficulty in sustaining and embedding outputs evenly across the university to effectively generate organisational learning. Related impacts on students' educational experience are associated to unequal technology-supported teaching methods deployed by different academics undermining the holistic nature of curricular activities (Kiteley and Ormrod, 2009:624) and reducing students' perceived sense of on-line engagement and enfranchisement, as argued by Hall (2006:30-31): academic teams should plan and structure the e-learning experience "both in terms of what is presented on-line and by whom, and how that maps onto other curriculum delivery mechanisms". This reduces disparity of student experience thus reinforcing academics' interaction with learners and the capacity to "pragmatically deliver what students say they want on-line".

Also, innovations and projects that flourish within less formal structures at the periphery of the organisation are very hardly scaled up or evenly distributed, causing Czerniewicz and Brown (2009:129-130) to conclude that "without policy oversight there is (...) the danger of inequalities". So the migration of e-learning from the individual sphere to the institutional domain, accommodated by policies playing a "redress and distribution function", can promote a shift to more consistent activities and ensure the "support and spread of the benefits of these activities and innovations". In the Portuguese academic environment, as identified in this dissertation, individual agency, however, remains essential as it is the major driving force for change and educational technologies take-up. It is only beneficial that it is framed by "supportive, flexible, non restrictive institutional policies" useful to instigate staff innovation in teaching and learning (Czerniewicz and Brown, 2009:129-130).

A new understanding of the role of institutional planning in Portuguese Universities thus emerges: it should become more strategic and exact only to provide for effective change with minimum disruption of academics' traditional individualism and pedagogical autonomy. Acting like an umbrella, this need for moderation of commitment is a

combination of leadership of influence and production of assurance through procedural justice, with specific emphasis on the issues of career and rewards.

Many aspects related to the processes of structuring career paths, making allocation decisions and transferring rewards are not linear or consistently aligned, and thus require a holistic appreciation. To understand the influence of rewards on academics' e-learning appropriation, it is necessary to consider how academics perceive (1) the supply and control of reward; (2) the processes involved in the accreditation and regularisation of career progression; and (3) the functioning of allocating entities, which establish the contingencies of reward and the requirements to attain e-learning reinforcement across HEIs.

The need to understand all these layers of meaning is connect to the principle that a cogent vision or strategic planning for e-learning cannot fail, as Latchem (2008:624) argues, to "recognize that successful adoption of e-learning hinges not on rhetoric, technology or infrastructure but on fundamental shifts in organisational cultures and structures, pedagogy, human resources development, funding and recognition and reward systems".

Price and Kirkwood (2008) concurs in this analysis, claiming that, when embedding e-learning in their teaching practice, one of the most pressuring issues confronting academics is the institutional context and its lack of support for the development of learner-centred activities, namely the lack of formal training for teaching in HE and the lack of institutional rewards for good teaching. Therefore, the unprecedented opportunities offered by learning technologies raise questions about academics' beliefs, values and assumptions and consequently about the nature of scholarship, which should be understood in context (Benson et al, 2007; Benson and Brack, 2009:74).

Special attention should be placed on how criteria, evidence and standards are handled across reward systems, which include evaluation of academics for reward and promotion; internal features intended to identify and reward excellent performance; and systemic features of rewards' impact on institutional culture. The focus is hence on the processes of change and innovation and in the "environmental and human factors associated with the implementation" of e-learning. (Ensminger and Surry, 2008:624).

This preference for moderate institutional scaffolding implies a rejection of centralised imposed or standardised models of e-learning mainstreaming. Instead Portuguese academics seem to embrace personalised support and a deeper dynamics of collective, evidence-based sense-making to avoid situational ambiguity – commonly

emerging from the proliferation of casuistry. At the bottom line, it seems important to draw and preserve clear lines of accountability, even if preferred leadership styles discard the properties of hierarchical managers in favour of the “mutual coordinated recognition of leadership authority within an atmosphere of trust, linked to an intentional community of e-learning practice” (Jameson et al., 2006:964).

Accordingly, Portuguese academics call for an informed influence leadership, containing reassuring elements of what Rowland and Parry (2009:551) describe as “information symmetry, symmetry of interest, power sharing, and psychological safety”.

Achieving this status of commitment to change at strategic and operational levels is an adaptive process dependent on the existence of what Laurillard (2006:113) describes as “local dialogues”, organically contributing to the flow of “localised versions of the innovation to spread downwards, customised versions to spread sideways, and generalised versions to travel upwards to managers and leaders”.

Jones and O’Shea (2004:384) seem to concur when arguing for the qualities of “organisational democracy rather than coercive managerialism”, nevertheless claiming that the implementation of strategy requires not only a flexible interplay between deliberate and emergent strategy, but also consequent cycles of reflection and evaluation, as well as a “substantial shift in human resources policies including recruitment, contracts, training and development and innovative payment systems” (Jones and O’Shea, 2004:393).

Keeping a strategy inexplicit can, according to Inglis (2007:425), reduce the risk of ill-conceived approaches. Such inexplicit strategies can stimulate flexibility, and enable academics’ trust and capacity to deliver change through innovative curricular interventions that encourage development “relying on existing and accepted quality processes”. Additionally, academics’ agency is key in eliminating what goes against the institution’s educational objectives and pushing successful practice towards wider institutional support.

This view is in line with Sharpe et al.’s (2006:140) persuasion that it is flexibility in practice that best allows “schools to contextualise their plans for change, the facilitation of communities of key staff and creating opportunities for staff to voice and challenge their beliefs about e-learning”.

Similarly, Jameson et al. (2006:959) propose a distributed-coordinated leadership that engenders dialogue across internal institutional narratives (the intersection of strategy with localised practice) and combines a “flexible balance between (a) the authority of

positional project leaders to drive overall project vision, strategy and transactional project management tasks and (b) the ethos and devolved responsibility of team-based collaborative leadership” to accomplish innovation projects, knowledge sharing and cooperative consideration of knowledge in use. This proposal is clearly against the traditional leader-centric normative, and calls for the combination of central objectives with owned strategies.

It may at first sight seem confusing but the institutional planning proposal that stems from Portuguese academics’ perceptions is all about achieving a distributed knowledge structure that promotes at the same time e-learning’s personal extractability and institutional objectifiability. As different academics select new pieces (procedures, methods, modes of use) to add to the university’s global e-learning system, the fabrication of appropriation strategies is set in dynamic motion, possibly passing through points of instability but eventually connecting to neighbouring clusters in a process similar to crystallisation or stabilisation achieved through accumulation of practice. Individual forces connect, adjust, release tensions, move around but contribute to build in an interdependent connectivity, sustained by norms that instil safety to the professional practice of academics.

This process is illustrated by Rossiter’s (2009:88-91) example of “messy e-learning issues”, which result from “competing forces or colliding trajectories”. These forces materialise in flexible spaces and less formal structures, ideal for the experimentation of “pilot projects, proof of concept initiatives and test beds”, until routinisation paves the way for institutionalisation.

This process relies heavily on academics’ autonomy and empowered participation, extended beyond the e-learning strategy design stage into, more significantly, the fabrication of the teaching and learning experience. The key issue is to distribute the decision making power to the academic level, as a means to allow an efficient e-learning design to evolve. Only then can the decentralising possibilities of digital fabrication, linked with customisation and personalised appropriation, make a multitude of autonomous processes emerge; processes that are not the product of clear-cut rules or programmatic impositions but the outcome of academics’ agency and decision.

The sustainable alignment of such diversity requires bridging the different boundaries where the fabrication of e-learning practices occurs and, at managerial level, “holistic thinking, skills and a discourse that reflects the relationships and

interdependencies” and trusts the possibility of self-organisation i.e. “the emergence of order out of state of disarray and complexity” (Rossiter, 2009:92-93). This involves abandoning conventional forms of control and embracing persuasion and influence as means of directing the locus of activity to the centre, through the building of collaboration, consensus and confidence among stakeholders.

Salmon et al. (2008:104-106) report the existence of successful institutional capability building approaches developed collegially and thus preserving, among participant academics, the pedagogical elements relevant to their disciplines. This develops both confidence and competence through pedagogically-driven collaborative strategic mainstreaming of e-learning across the institution by acknowledging departmental autonomy and devolved academic development. A distance learning strategy is set up to “provide design and production help for subject teams who wish to undertake curriculum design and delivery through distance learning”, encouraging academics to “share more common ground than before in terms of design and pedagogy”.

A relevant disciplinary intervention, iterative and reflective in nature, focused “on practical and contextualised outcomes for one particular course, module or programme team” (Salmon et al., 2008:100) seems therefore to be a catalyst for driving academics’ understanding of e-learning and its fit with desired pedagogical purposes, through the personalised tailoring of e-tivities (Salmon, 2002) and alignment of the latter with the VLE and the curriculum.

Additionally, communication and interaction with trusted champions and facilitators can “engage front-load change management into participative design involving workers of influence across the institution” (Shurville et al., 2009:210), whilst fostering the embedding of resulting learning designs into department-wide teaching practice and assessment routines.

Such inclusive practices recognise the importance of cultural relationships between e-learning stakeholders and stimulate an environment of trust, participation and ongoing constructive analysis of performance with academics and other relevant members of the wider e-learning community of practice, collaboratively extracting “higher levels of procedural knowledge internally and externally regarding e-learning current developments; and *knowledge in use* regarding knowledge of HE/FE current good practice i.e. knowledge

transfer, sharing and management regarding e-learning in FE/HE” (Jameson et al., 2006:958).

The following sections extend this idea by presenting and discussing findings of three different studies that focused on decision-making and strategic thinking about e-learning in HEIs.

5.4.1 McPherson and Nunes’ ‘Critical success factors for e-learning in higher education’

In two different papers reporting results from the same study McPherson and Nunes (2006, 2008) identify organisational critical success factors for e-learning implementation in HEIs, which similarly to the ‘theory of trust through organisational learning dialectic’, can be used as a foundation upon which to base decision-making and strategic thinking about e-learning.

Declaring an epistemological affiliation with critical theory, McPherson and Nunes (2006, 2008) perform organisational analysis using critical success factors as a means of identifying the essential elements that need to be addressed in order for e-learning adoption – understood as a change process – to be effective.

The specific data collection method adopted by McPherson and Nunes (2006, 2008) was focus group interviews. The data analysis from focus group interviews with practitioners, administrators and academics revealed critical success factors that spread into different clusters: leadership, structural and cultural issues (inherent variables within HEIs, which determine any change processes and innovation), design issues (specifically related to e-learning within institutional settings), technological issues (related to the technological infrastructure and the level of installed capacity); and delivery issues (the implementation of e-learning).

Not being an exact match to the clusters of critical success factors identified by McPherson and Nunes, the near-core categories of ‘trust to change’, ‘trust to integrate’ and ‘trust to institutionalise’ provide important points of theoretical convergence between the two studies, as illustrated by the comparison feature on Table 5.

Summary of institutional leadership critical success factors as identified in McPherson and Nunes (2008)	Conceptual convergence with the ‘theory of trust through organisational dialectic’	
Focus on the changing role of educational professionals	Occupational mindsets (Section 4.1.1.8); Erosion of high status professional identity (Section 4.1.1.16) Epistemological disagreement (4.1.1.6).	Trust to change
Appropriate delivery models – pedagogical model that emerges from academics	Unrealised pedagogical value (Section 4.1.1.5)	
Creation of interactive learning environments - decision on relevant pedagogical evaluation and assessment	Student-centred learning (Section 4.1.1.9)	
Staff attributes and experience	Perceived incompatibility with work rules and regulations (Section 4.2.3.1)	Trust to integrate
Essential staff training	Lack of functional and technical expertise (Section 4.2.1.1)	
Appropriate technological infrastructure (robust, reliable, effective, sustainable, serviceable)		
Inspirational leadership that involves staff in the change process	Lack of a clear mandate for mandate for implementation (Section 4.3.2.2); Inconsistent organisational strategy (Section 4.3.2.3).	Trust to institutionalise
Adaptability and customisability of e-learning systems	Unfulfilled autonomy to design learning experiences (Section 4.3.1.1)	
Understanding motivation for academics’ engagement, and recognising commitment	Lack of organisational homophily (Section 4.3.2.6); Underestimated organic development (Section 4.3.3.6); Lack of a responsive normative framework (Section 4.3.3.1); Inconsistency between adoption goals and quality criteria to measure them (Section 4.3.3.4);	

Table 5 – Comparison between e-learning institutional leadership critical success factors (McPherson and Nunes, 2008) and constituent elements of the ‘theory of trust through organisational dialectic’.

The technological and delivery issues identified in McPherson and Nunes (2006) resonate amply the transformational pathway (in terms of pedagogical conceptions, professional identity, and epistemology) that is triggered when the first level of trust barriers to change are overcome and academics start to make sense of e-learning (Section 4.1).

Similarly the design issues identified in McPherson and Nunes (2006) convey problems that are very similar to the trust barriers subsumed under the near-core category

‘trust to integrate’ (Section 4.2), namely the way affects academics’ work arrangements and the disagreement with imposed levels of engagement with educational technology.

Finally the greatest convergence occurs at the level of leadership, organisational structure and culture, which are dimensions directly addressed by the near-core category ‘trust to institutionalise’ (Section 4.3), particularly the rejection of objectivist approaches to the mainstreaming of e-learning, the importance of consultation, sustained dialogue and negotiation between management and academics, and the production of procedural justice at the level of careers, professional standing, and rewards.

Accordingly, McPherson and Nunes (2006) argue that several perspectives need to be aligned if e-learning is to be successful, particularly through “good communication and leadership” (McPherson and Nunes, 2006:551), support and project management, well designed learning environments developed by multidisciplinary teams (McPherson and Nunes, 2006:555), and the granting of special attention to institutional rewards (McPherson and Nunes, 2006:555).

5.4.2 Parchoma’s ‘Influences of institutional policies and practices’

The purpose of this study was to “examine organisational structural, cultural, pedagogical, and economic (reward system) elements of a traditional research-oriented university for influences on faculty adoption of computer mediated learning technologies (CMLTs)” (Parchoma, 2009:149).

Despite being a single case study – focusing on academic members of staff involved in the implementation of a CMLT project at the University of Saskatchewan, Canada – there is a very clear proximity of goals with the study reported in this dissertation, namely an attempt to discern driving and restraining influences on academics’ adoption of e-learning, and an investigation of academics’ perceptions of the extent to which HEIs’ policies and practices are aligned to support the successful design, development and implementation of e-learning.

Indeed there seems to be a very close convergence with the research question that guided Parchoma's (2009:149) study, more specifically "What are the driving and restraining forces in faculty life spaces that inhibit or support adoption of computer-mediated learning technologies (CMLTs) into teaching praxis in higher education?", which resulted in an inquiry into motivations for academics' adoption of CMLTs, changes in the scholarship of teaching, academic returns on investment for time devoted to embed CMLTs innovation into pedagogical practice, and role played by institutional structures and policies.

The study developed through combining environmental scan of institutional documentation and interview data collected by means of focus groups and individual interviews. Similarly to the interview script employed to collect data with the informants of the study described in this dissertation, Parchoma's (2009) informants were asked "to describe their motivations to adopt CMLTs into teaching praxis, any resultant changes to their scholarship of teaching, the compensation they received for time invested in pedagogical and technological innovation, and the extent to which institutional structures, cultures, and policies had supported or impeded their efforts" (Parchoma, 2009:149).

Focus groups and individual interviews lead to academics identifying a range of factors related to perceptions of technology enhanced learning project development, which influence process and project outcomes. The possible articulation of factors identified in Parchoma (2009:73) with the emergent theory of 'trust through organisational dialectic' is synthesised in Table 6, where the common themes across narrative accounts of academics' experiences with e-learning are listed. A more detailed explanation and an integrated discussion of these against the emergent theory proposed in this dissertation are offered next.

Motivation ranked high in Parchoma's (2009) study as driving force of e-learning adoption, being related to not only to the willingness to take risks and experiment and to academics' "levels of interest, experience and comfort with using information technology for teaching" (Parchoma, 2009:75), but also to engaging leadership styles (Parchoma, 2009:76). Similar findings are reported in this dissertation when 'insufficient intrinsic motivation' (Section 4.1.1.1) is discussed as a barrier to academics' actional-personal confidence in e-learning, and when a predominant 'monolithic academic culture' (Section 4.1.2.1) is described as being inimical to innovation and disruptive teaching and learning practice.

Common themes across narrative accounts of academics' experiences with CMLT in Parchoma (2009)	Near core categories representing the three stages of trust development
Faculty motivations	Trust to change (Section 4.1)
Influences of the scholarship of teaching	
Pedagogical praxis	
Return on investment for faculty time	Trust to integrate (Section 4.2)
Organisational cultures	
Organisational structures and function	
Organisational economies (institutional reward systems)	Trust to institutionalise (Section 4.3)

Table 6 – Comparison between institutional driving forces of e-learning adoption (Parchoma, 2009) and constituent elements of the ‘theory of trust through organisational dialectic’.

The reduced influence of the scholarship of teaching in the organisational culture of HEIs is another common vector linking Parchoma’s (2009) study and the findings in this dissertation, particularly the realisation that the “tension between teaching and research responsibilities [is] a seemingly ubiquitous challenge for faculty members” (Parchoma, 2009:97). In the context of Portuguese HEIs this realisation gave shape to the barrier of ‘pervasive research culture’ (*vide* Section 4.2.2.1), which explains why shifting the emphasis towards improved teaching is not a career goal for the majority of academics. Related barriers to the reduced influence of the scholarship of teaching include competing responsibilities such as departmental and committee responsibilities (Parchoma, 2009:76), which in the context of Portuguese HEIs are the root causes of bureaucratic overload and internal fragmentation (*vide* Section 4.1.3.1).

Academics’ pedagogical praxis, composed of philosophical bias, “disciplined-based pedagogical cultures” and “departmental influences on the development of a teaching philosophy” (Parchoma, 2009:75) are also common pools of concern in Parchoma (2009) and across the accounts offered by the academics interviewed in Portuguese HEIs. This is evidenced by the explanation of trust barriers such as ‘different knowledge bases’ (Section

4.1.1.10) and 'low learning and teaching-oriented values' (Section 4.2.2.2), referring respectively to differences in curriculum and teaching styles across disciplines in higher education courses, and to the precarious balance between research and teaching as dominant work practices, with a significant low interest in pedagogical change.

The lack of return on investment and recognition given to e-learning in terms of career-advancement was of particular concern for the participants in Parchoma's study: "participants expressed a sense of professional vulnerability in the balancing commitments of e-learning projects and "attending to competing research responsibilities" (Parchoma, 2009:151). Similar concerns were expressed by academics in Portuguese HEIs, in particular the realisation that teaching practice remains largely unscrutinised and that the regulatory dimensions rarely rise above the formalisms of defining teaching/contact times and tutoring times (*vide* trust barrier 'measurable goals and performance feedback' – Section 4.1.3.2); and the reported mismatch between typical operational standards and expectations of campus-based instruction on the one hand, and the differing flexibility requirements that are the defining feature of online delivery on the other hand (*vide* trust barrier 'perceived incompatibility with work rules and regulations' – Section 4.2.3.1). Furthermore, the lack of academics' time to develop and/or integrate technology into instruction is reported in both studies (*vide* trust barrier 'temporal frames of work' – Section 4.2.1.3).

Convergence between the results reported in Parchoma (2009) and the findings advanced in this dissertation occurs also through the centrality of organisational culture as a key factor in the promotion of consistent approaches to e-learning adoption. Accordingly, in Parchoma (2009:157) academics highlighted the importance of their institution's "tolerance for experimentation, innovation, and associated uncertainty, regarding the quality and effectiveness of CLMT innovations" – something that several Portuguese academics also call for, as expressed in the trust barrier 'unfulfilled autonomy to design learning experiences' (*vide* Section 4.3.1.1). Similarly, both communities of academics agree on the role played by small-scale projects and local communities of practice, which may "mediate anxiety or scepticism and promote cross-fertilisation of effective approaches to integrating" (Parchoma, 2009:176). Regrettably Portuguese informants report the generalised absence of this practice, as explained by the barriers 'underestimated organic development' (*vide* Section 4.3.3.6) and 'turfism' (*vide* Section 4.3.2.5), which denotes institutions' inability to extract benefits from the poly-cultural nature of academy.

Participants in both studies have also identified the important role played by sources of institutional support for e-learning, and how problems at the levels of “instructional design, media production, additional financial resources and support staff provided by their colleges or departments, and administrative support from senior management” (Parchoma, 2009:152) impeded the successful design, development, and delivery of e-learning. Similarly, in the context of Portuguese HEIs, participants complain about the lack of access to the necessary skills, training and guidance at both an institutional and a departmental level, which could enable them to take full advantage of the opportunities that e-learning offers ‘inadequate specialised services’ (*vide* ‘inadequate specialised services’ – Section 4.3.3.5).

Another symptom of organisational structures’ dysfunctionality in both contexts is what Parchoma (2009:153) characterise as the “incongruities among institutional and departmental priorities and faculty members’ efforts to adopt” e-learning, which results in divergent goals, rather than commonly shared principles for decision making, as outlined in the barrier ‘inconsistency between adoption goals and quality criteria to measure them’ (*vide* Section 4.3.3.1).

A final factor identified in both studies refers to what in Parchoma’s (2009) study is termed organisational economies, which is directly related to “the lack of institutional recognition of and rewards for significant time investments” (Parchoma, 2009:160). In the Portuguese context the issue surfaces in very similar ways, with academics referring the lack of institutional incentives or recognition for colleagues who participate in technology enhanced learning as a large institutional barrier (*vide* insufficient reward – Section 4.3.3.2); and with various informants considering that wider adoption could be promoted if institutions aligned tenure and promotion criteria to become more inclusive in determining legitimate scholarly activities via recognising the adoption of e-learning into teaching practice as legitimate scholarly activity (*vide* barrier ‘lack of a responsive normative framework’ – Section 4.3.3.1).

What all these areas of concern identified by academics in Parchoma’s (2009) study convey is something very similar to the tensions between bureaucratic and autonomous organisational functions highlighted by Portuguese academics. In both studies the tensions are compounded by a rejection of one-size-fits-all organisational models and, and the desire

to adjust currently centralised leadership and allow for participation and negotiation of trust-building standards (mostly at the level of reward).

Ultimately, Parchoma (2009) proposes addressing the supra-cited areas of concern through processes that resemble the proposal contained in the theory of ‘trust through organisational learning dialectic’, namely through promoting a distributed approach to leadership via “internal negotiation of members’ multiple life spaces and their associated perspectives [to] produce more effective and timely results that can be achieved by consistently applying macro or mezzo-level policies or procedures” (Parchoma, 2009:156-157).

5.4.3 Hardaker and Singh’s Structuration approach to adoption and diffusion of e-learning in UK universities

Hardaker and Singh (2011) conducted an exploratory study aimed at identifying the organisational factors that influence (either enabling or inhibiting) the adoption and diffusion of instructional technology at five universities in the United Kingdom, each standing at a different level along the continuum of adoption (from the simple online availability of course content to the extensive use of content management), and each representing an institutional approach to the adoption and diffusion of instructional technology: top-down, integrated top-down, bottom-up, research-driven and project-driven approach.

Hardaker and Singh (2011:221) conceptualise e-learning adoption in HEIs as a disruptive type of innovation, since it can “be a catalyst for transforming the strategic direction of HE”, allowing it to engage differently with educational content and educational process design issues.

They adopted a qualitative exploratory approach, having conducted a total of 36 interviews. Drawing on Giddens (1984) “theory of structuration” and on Orilowski’s (2000) adaptation of this theoretical approach to technology, the interviews examined the

interaction between human agency and structure, focusing on how structural, cultural, and agential elements influenced each other during the process of diffusion of e-learning in HEIs.

Not having departed with such an a priori theoretical lens, the research described in this dissertation sought the inductive discovery of meanings, social structure, and their associations with specific academics' or management actions that ultimately translated a very similar concern to the one expressed in Hardaker and Singh (2011): understanding what causal mechanisms affect diffusion the of e-learning across HEIs, and which contextual influences and conditions shape the diffusion of e-learning.

The similarity goes beyond purpose and intent, and indeed the findings reported in Hardaker and Singh (2011) relate significantly to the abstract conceptualisation that gave substance to the theory of 'trust through organisational learning dialectic'. Hardaker and Singh (2011:221) also refer to the "dialectical nature of adoption of e-learning", operating a synthesis between academics' agency and the "institutional structures such as strategies, training, access to technology, technical support and time resources".

The core argument contained in Hardaker and Singh (2011) is that the local context lived by academics and the top-down strategic change need to be conceptually and pragmatically bridged. In practical terms this happens when academics "perceive they are able to influence the e-learning initiatives within institutions" (Hardaker and Singh, 2011:230). They need to be involved in "strategic change that is likely to have an influence on their academic roles. Failure to acknowledge this call by lecturers is likely to result in rejection or false compliance to top down directives" (Hardaker and Singh, 2011:230).

Similarly, the theory of 'trust through organisational learning dialectic' posits that a confident and trustful adoption of e-learning depends on ensuring academics are engaged in the reflexive monitoring of their conduct, and in co-production of cultural and operational norms – as opposed to the passive acceptance of the impact of structures.

5.5 Relating the emergent theory to organisational trust theory

This section discusses the emergence of the issue of trust in connection to e-learning appropriation by academics in Portuguese HEIs. It also represents a response to organisational research's call for the study of trust in "new and unexplored management information systems contexts" (Bensabat et al., 2010) and for a deeper understanding of "the dynamics of trust and distrust relations - one which makes specific provision for conditions of ambivalence" (Lewicki and McAllister, 1999).

Essentially, I argue that the adoption of e-learning is one of such ambivalent circumstances, since consequential decision-making regarding adoption seems to follow outcome framing on the side of academics.

The framing of outcomes and adoption effects is justified on the grounds of the costly transition of Higher Education Institutions to the digital paradigm. Costs are eminently related to what Laurillard (2007) describes as "the immensely difficult task of changing a culture in which the drivers of curriculum and assessment requirements, stakeholder demands, career rewards, and funding models, are all geared to old technologies".

Consequently, if e-learning is to be fully exploited in the delivery of Higher Education, academics will need to revise patterns of practice and behave differently. Nonetheless, academics, as social actors, "do not behave or decide as atoms outside a social context [and] their attempts at purposive action are embedded in concrete, ongoing systems of social relations" (Granovetter, 1985:487). Therefore, eliciting academics' cognitions about their position within the structured social context of the university can potentially provide pathways to the "proximal processes that lead to trust" (Messick and Kramer, 2001) in e-learning.

Although the meaning of trust is intuitively understood by the common citizen, we aim at transcending the anthropocentric conceptualisations that traditionally posit a view of trust as the willingness to accept "risks associated with the type and depth of the interdependence inherent in a given relationship" (Sheppard and Sherman, 1998).

I therefore move beyond a strictly interpersonal dimension to approach trust in more calculative and strategic dimensions, following Smith's (2001) argument that trust

concerns “uncertainty about outcomes, ambiguity of objective information and exercise of discretion about action”. The focus of interest is academics’ consequentialist decision making – a deep process that, according to Messick and Kramer (2001) entails “processing of information about outcomes, uncertainties, risks and combining this information with the decision maker’s preferences, risk attitudes, levels of aspiration, and willingness to tolerate uncertainty”.

The conceptualisation of trust presented here derives from academics’ identification of systems and methods that allow them to make assessments and decisions regarding the dependability of e-learning adoption, framed as a transaction that involves a certain degree of risk and difference to the traditional academic environment and practice.

Therefore, the principal aim of this section is to connect the psycho-social foundations of academics’ trust with the macro-bases of organisational processes that are set in motion to accommodate e-learning.

Trusting behaviour is triggered by initial salient value, potentially erodible. Research on motivators for academics in e-learning conducted by Cook et al. (2009) identifies several sources of enthusiasm and trusting behaviour: a personal proclivity to use technology; the ability to reach new audiences; the opportunity to improve teaching and develop ideas.

However, initially ascribed meanings may change as academics learn about or experience uncontrolled risk, such as the academic who displays a mistrusting behaviour after having experienced the time-consuming task of interaction with students and contents’ moderation. In appraising the fragility of trust, Kramer (1999) alerts for the widespread of trust-destroying events, which may “carry more weight in judgement than trust-building events of comparable magnitude”.

The wider literature on e-learning and instructor’s roles describes academics’ difficulties that may operate as trust-destroying events. These include difficulties in (i) dealing with increased process-related demands of aspects such as making provisions for the negotiation of activities that best meet students’ learning needs; (ii) dealing with the flow of content questions and answers from students, which can easily become overwhelming (de Vries et al., 2005; Kester and Sloep, 2009); (iii) and improving closeness and cognitive learning through mechanisms of instructor immediacy (Nagel, 2010:46).

Such time-consuming tasks somehow contradict the rhetorical idea that e-learning can actually set academics and learners free of temporal constraints (Goodyear, 2006:84). A

simple reality-check confirms that, as a result of the introduction of e-learning, a whole new set of responsibilities emerges, pertaining no longer exclusively to student's skills acquisition and construction of knowledge but also to moderating students' activity.

The situations reported above lead us to infer that although trust "simplif[ies] the social world by allowing actors to differently manage" (Marsh and Dibben, 2005) uncertain contexts, it cannot give them absolute confidence. As further posited by Weber et al. (2005:76), trust operates at the level of anxiety reduction, being a psychological state that helps individuals and organizations process information more rapidly, based on positive expectations of a third party's behaviour.

Interestingly, a study of personal relationships with extended impact in the relational and social dimensions of trust conducted by Murray and Holmes (1994:61), discovered that people often develop optimistic narratives and cognitive frames "to preserve feelings of confidence and security in face of the inevitable risks posed by interdependence". Initial trusting behaviour in e-learning, by extension, seems to follow along the same lines, and entail accepting vulnerability in the hope or expectation of gains extractable from incorporating this technology in teaching practice.

However, another variant contributing to the heterogeneity of experiences and expectations of use is entrenched distrust, which Marsh and Dibben (2005) qualify as the human response to insufficient information, resulting in the need for evidence. Across informants' accounts, this was manifested when academics held no expectation of benign outcome based on inference of e-learning's distinctive marks. In particular, it was reported that the expansion of available instructional possibilities offered by e-learning faces the obstacle of academics' self-complexity and entrenched conservatism. That is especially the case of more senior staff, for whom "changing mindset and role description to that of a service provider can certainly increase workload and reduce status" (Shurville, Greener and Rospigliosi, 2008).

A more rational approach to e-learning appropriation derives from the existence of trust management systems committed to ensure academics are aware of possible e-learning outcomes and are consequently able to take cost-effective actions, enhance benefits and mitigate appropriation risks. These systems reflect a gain-oriented rationality, rooted in the capacity to trigger academics' confidence and assurance. Accordingly, acceptability of e-

learning can be increased by identifying and emphasising benefits, thus generating consistency among academics' beliefs.

Structural-organisational assurance can be leveraged through the establishment of clear pay-off and reward structures, which are currently stifled by (i) career regulations that ignore the time applied by academics in e-learning development; and (ii) the traditional configuration of the university as a social system around excellence in research, at the expenses of quality in teaching and pedagogical innovation.

Informants involved in this research generally reported teaching online activities to be personally rewarding, but perceived discrepancies between personal and institutional rewards for using e-learning, and most sharply between university rewards for teaching and scholarly activity. Despite the fact that a wide range of instructional technologies and e-learning development programs was endorsed by management, top rated options referred to institutional recognition of research excellence.

From this comparatively lower endorsement given to online instructional skills emerges an imbalance in the effort-reward chain, which may determine that academics become less agreeable to considering online instructional development activities because institutional incentives don't communicate the message that teaching online is serious business, despite the increment in teaching loads and the heavier burden of designing, tutoring and advising responsibilities.

Similar concerns are echoed in the literature. A lack of guidelines for evaluating online teaching and the absence of supportive institutional response makes online teachers "concerned about how their online teaching is regarded in the context of promotion and tenure" (Spector, 2005). Valuable time can otherwise be allocated to better rewarding activities such as research and publishing.

Because of this lack of institutional rewards and incentives (Martins and Nunes, 2010), academics find it uninviting to think of the e-learning experience in terms of an equitable temporal structure (Loureiro-Koechlin and Allan, 2010), despite the evident need of establishing instructor presence through the definition of course process, evaluation and interaction elements (Baker, 2010).

A fairer reward system, academics argue, must be able to go beyond symbolic incentives and impact in the research culture in such a way that the scholarship of teaching

and learning offers equivalent compensation, thus ensuring an integrated approach to academic careers.

Such an integrated approach should bring to the academics' assessment equation dimensions not traditionally considered such as the development of teaching practices based on the learning perspective; teachers' effort to develop students' learning online; discipline-relevant pedagogical reflexivity; and special attention to the integration of learning philosophies and teaching activities.

An examination of organisational theory literature further emphasises reward as a mediating process through which employees are motivated and resources allocated. Ferrin and Dirks (2003) examined perceptual routes through which rewards influence trust to conclude that "reward structures are a powerful element of the organizational context, and represent a potentially useful tool for managers who wish to change employees' behaviours, perceptions and beliefs".

In addition to this, a stream of management research emphasises the use of extrinsic rewards in an effort to stimulate employees' creativity (Fairbank & Williams, 2001; Van Dijk & Van den Ende, 2002, Eisenberger and Aselage 2009).

But the dimension of individuals' sensemaking cannot be obliterated from a theorisation of e-learning adoption. Actional-personal confidence in e-learning can be fostered through relying on academics' agency and on their ability to understand evidence of salient value. From perceived benefits, academics will be able to mainstream what they consider to be appropriate guidelines, procedures and goals of introduction of e-learning in pedagogical practice. Confidence is, as purported by Marsh and Briggs (2009), "often achieved through rules and regulations that are backed up by a trustworthy legal or social system".

If, as outlined above, university-wide norms of virtual presence, accounting for and adequately rewarding academics' time allocated to the scholarship of e-teaching provide a solid basis for the conscious calculation of adoption consequences, confidence is on the other hand predicated on shared institutional understandings regarding that very system of rules and the affordances of e-learning. A normative system can only foster trust if sustained within an organisation "not [by] an explicit contract (...) [but] by socialization into the structure of the rules" (Marsh and Olson, 1989).

Consequently, consistency in guidelines provided by management and the collaborative negotiation of individual expectational assets are fundamental in the process of articulating academics' perceptions, motives and aspirations in order to control the specific transformations introduced by e-learning.

Comprehensive and clear communication about the reasons for appropriation, reinforced with the diffusion of knowledge regarding embedding strategies and consequences is also needed to avoid irrational resistance. Research on trust validates this assertion, underlying the role of communication in successful projects (Pinto et al. 1993), and indicating that "communicating one's reasoning and expectations via explicit statements that describe intentions and expectations can be effective in clarifying the dynamics of a trusting act" (Messick and Kramer, 2001).

Research conducted by Mansvelt et al. (2008) generated similar conclusions, suggesting that poorly linked technology infra-structure, policy and social connections may result in frustrated and confused staff. Practice misaligned with policy, uneven e-learning experience implementation, and unsupportive management are inimical to confident adoption.

Additionally, availability of support structures can help academics feel confident to freely compose the most adequate technologically-enhanced pedagogical solutions. Institutionally flexible technology-enhanced learning environments that value locally nurtured knowledge and networks of contacts can reduce complexity, organizational conflict and staff anxiety. Shurville, brown and Whitaker (2008) concur with this approach, calling for the provision of "institutions and their developers with facilities to adapt and integrate the product with local administrative processes, IT platforms and teaching culture".

To avoid divergence and tension between managerial and academic practice, devolution should increment disciplinary-driven innovation and achieve what Snyder et al (2007:200) define as the "alignment of planets": the generalisation of technology-mediated pedagogical initiatives through the secure enabling of conditions for academics' creativity and productivity i.e. "resources, systems, discursive practices and other conditions that facilitate complementarity" between innovations across the institution and compatibility of values and goals.

In terms of managerial principles aimed at shaping trust, this proposal seems to match the human investment philosophy as described by Creed and Miles (1996): “the key characteristic of the human investment philosophy is a willingness to invest in education designed to enhance the technical competencies, business understanding, decision-making abilities, and the self-governance capabilities of all members”. Additionally, sharing information with academics and involving them in strategic and routine decisions will improve morale, reduce resistance, and stimulate cooperation.

To further integrate the emergent theory in this dissertation with the literature on the issues of trust and management, the following subsection address the concepts of organisational trust and trust-building, as discussed in the theoretical frameworks advanced by Blomqvist and Stahle (2000), and Sydow (1998, 2006).

5.5.1 Blomqvist & Ståhle model of organisational trust

Blomqvist and Stahle (2000) examined the role of trust in enhancing asymmetric partnership formation in the telecommunications sector, between large incumbent players and specialised suppliers. It is a context dissimilar to the issue of e-learning adoption in HEIs, and the focus of trust in their study is inter-organisational rather than intra-organisational.

However, the fact that Blomqvist and Stahle’s (2000) study focuses on the extent to which “perceived or believed dissimilarities in values goals, time-horizon, decision-making culture, and logic of strategy” create barriers for cooperative behaviour provides a good comparative case to the equivalent dissimilarities affecting the strategic understanding between academics and the management of HEIs with a view to effectively implement e-learning.

Before proceeding to the presentation of Blomqvist and Stahle’s (2000) model of organisational trust, the following paragraphs summarise what the literature typically defines as organisational trust. The concept has traditionally been addressed by the literature on social psychology (Blau, 1964), sociology (Luhmann, 1979), and economics (Sako, 1992), but the most consensual definitions have defined it as a mix of interpersonal

and impersonal dimensions. Mayer et al. (1995) and McNight et al. (1998) define it as the positive expectation an individual has about the competence, reliability and benevolence of fellow organisational members, combined with the organisation members' trust in the organisation's vision, strategy, and procedures. Accordingly, in its interpersonal form, organisational trust refers mostly to individuals' "ability, capability, integrity, truthfulness and goodwill" (Ellonen et al., 2008:161). In its impersonal form, organisational trust refers to the efficiency and procedural fairness of the organisation-wide systems such as reward systems and human resources policies (Costigan et. al., 1998; Pearce et al., 2000; Atkinson and Butcher, 2003).

Returning to the context of Blomqvist and Stahle's (2000) study, and the need to successfully partner different-sized companies, building trust is presented as something particularly important to "reach the potential network benefits of scale and scope". Based on a thorough review of the literature, Blomqvist and Stahle (2000) created a model on organisational trust where the interplay of impersonal (inter-organisational) and interpersonal trust is scrutinised with the objective of leveraging synergistic creativity, or as Luhman (1995) would have defined it, to produce double-contingency relationships characterised by interdependency and equity.

According to Blomqvist and Stahle (2000), personal and impersonal trust is inter-related, "as it is only persons who may build trust and evaluate trustworthiness".

Accordingly, the model of organisational trust they propose (represented in Figure 11) is based on both organisational and personal trust and on Giddens' structuration theory, more specifically the principle of interplay between structure and action. The model posits that trust is built by the convergence of individual and organisational structures, which are signalled through actions. In turn, actions are evaluated as signs of trustworthiness.

The interplay between structure and action produces the dynamics of trust. Trust-building is iterative and results from the convergence of organisational and individual actions. For example, the experience of mutual orientation is a signal that both the organisation and the individuals are committed to norms and values that promote reciprocity. This achievement of shared values maximises the chances of joint effort and increases individuals' "will to stretch his/her roles in the organisation" (Blomqvist and Stahle, 2000).

Similarly, the articulated communication of organisational goals and individual intentions signals that both parts are able to “state their needs and expectations openly”, which results in a better understanding of what are the goals, what is needed to reach them, and what is requested in terms of rules and commitments (Blomqvist and Stahle, 2000).

With the issue of e-learning adoption in HEIs, a similar convergence is necessary: the voluntary engagement of management and academics in a transformative exercise through collective inquiry, negotiation and consensus building as a means of enabling both parties to reflect about e-learning as a common area of concern.

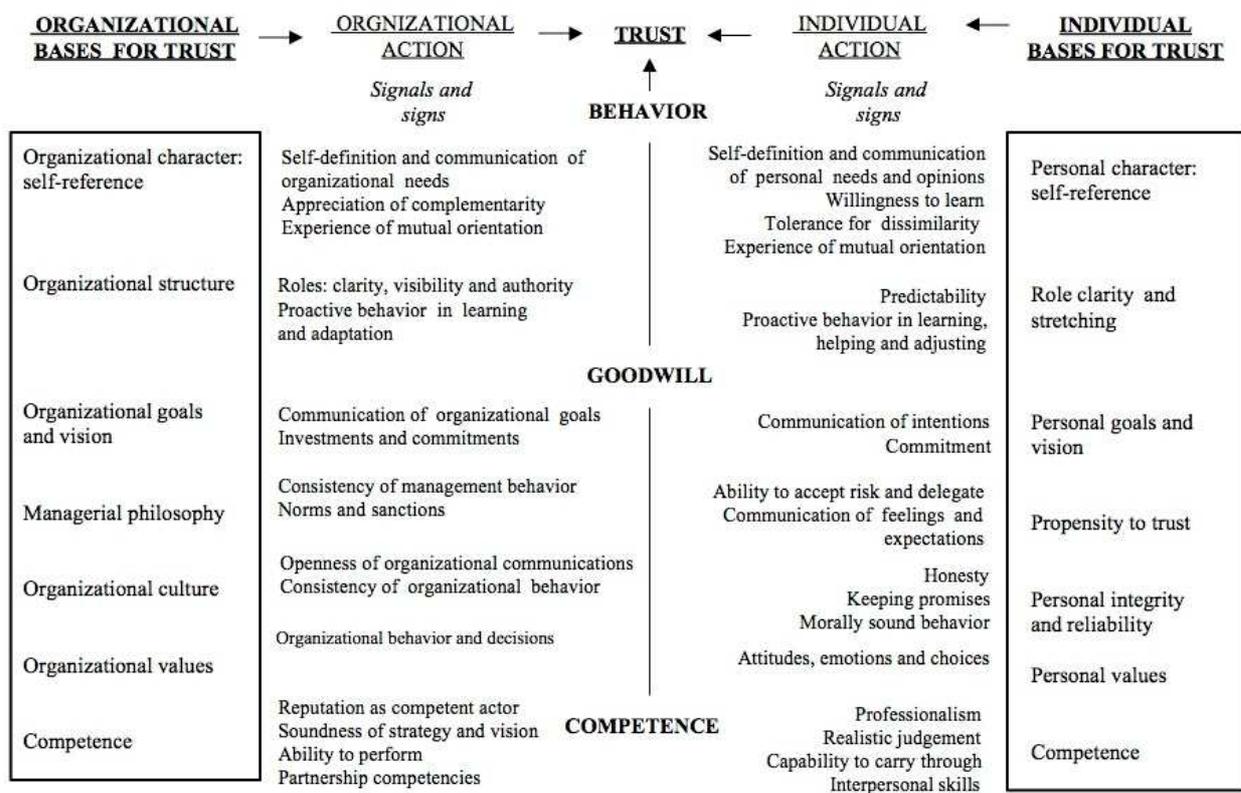


Figure 11 – Blomqvist and Stahle’s (2000) model of organisational trust, where trust is described as the product of both individual and organisational actions

5.5.2 Sydow's structuration perspective on trust building

Sydow (1998) argues that despite the fact that trust is very difficult to develop and sustain, it is nevertheless possible to manage the conditions (processes, routines and settings) affecting the development of trust. Having extensively addressed the issue of trust (Sydow, 1998; Sydow and Windeler, 2003; Sydow, 2006), Sydow's main contribution to the field is "a practical plea for more trust-sensitive management of organisations and inter-organisation" relationships (Sydow, 2006:378), which fits the theory of trust through organisational learning dialectic's plea for collaborative production of social and technical norms that produce shared knowledge and a common understanding of what is expected practice in e-learning.

The constitution of trust according to Sydow's structuration perspective on trust building (Sydow and Windeler, 2003; Sydow, 2006) entails the development of interpretive schemes, resources and norms to which social actors refer interactively, thereby producing a social structure of signification and legitimation in which the object of trust is constituted and to which further action will refer.

According to Mollering, this idea demonstrates that Sydow "conceptualises trust in terms of a modality in the duality and recursiveness of structure and interaction" (Mollering, 2006:370). In other words, structures are "considered as both enabling and constraining the social interactions within this process of structuration in which trust is not only an outcome, but also a medium of structuration" (Sydow, 2006:379).

Transposing this conceptual framework into the context of e-learning adoption as described by the theory of 'trust through organisational learning dialectic' implies acknowledging academics' ability to actively work on trust by challenging entrenched interpretations and redefining the social context – composed of institutionalised rules, roles and routines - in such a way that the trust required for e-learning adoption becomes possible.

This means that the significance of institutionally-embedded agency in the constitution of trust lies in the assumption that academics and management will collectively create the institutional framework which then serves them as a source for a trustful adoption of e-learning.

5.6 Summary

This section has proposed a theoretical conceptualisation of trust that derives from academics' identification of the methods that allow them to make assessments and decisions regarding e-learning adoption. The originality of the approach, when compared to the existent literature, is that it suggests that academics frame e-learning adoption as a transaction that involves a certain degree of risk and substantial difference to the traditional academic environment and teaching practice. However, the perceived costs of this transaction are alleviated when specific conditions are met, such as evidence of procedural justice, and collective learning experiences (partnering the management of HEIs with academics in the pursuit of solutions to improve organisational performance).

Therefore, the emergent theory advances the literature in e-learning adoption by connecting the psycho-social foundations of academics' trust with the macro-bases of organisational processes that should be set in motion to accommodate e-learning.

6. Conclusions

“Healthy institutions are fit for purpose; in other words they are organised to ensure their goals and purposes are achieved in the most effective and efficient manner. The current structure and organisation of most universities and colleges is largely historical and (...) unsuited to new forms of technological delivery” (Bates, 2000:36).

As discussed in preceding chapters, in endeavouring to understand the individual, strategic and operational factors that impact on Portuguese academics’ perceptions of e-learning, this research has contributed the identification of trust barriers that hinder academics’ confident adoption of education technology. More importantly, this dissertation advances a theory that addresses the issue of perceived risk mitigation, through stressing the importance of supplementing academics’ initial motivational assets (based on experience and on saliency of partial aspects of e-learning). The central argument contained in this dissertation is that greater trust in e-learning appears to be strengthened by the introduction of a balancing effect in academics’ perceptions of associated risks and benefits. This occurs by the process of progressive integration and institutionalisation of e-learning through organisational learning and through negotiation and adherence to a normative system that formally recognises and rewards the demands of academics’ virtual presence.

Accordingly, there is a concrete recommendation for management practice that emerges as a conclusion from this research: it is vital to think about trust-building factors during the establishment of e-learning, which can make the implementation stages run more smoothly, and which can minimise conflicts that may arise at the level of individual adoption.

In particular, I emphasise the need to supplement academics’ trusting behaviour beyond the dimensions of initial belief, expectation or willingness to appropriate technology. These sources of trusting behaviour are not solid enough as their basis is mainly inferential. Positive inferred meanings are not durable and some academics have reported variations in perceived saliency of values.

Developing experiences with e-learning prompt academics to conduct growingly informed risk assessments. Disruptions to professional praxis, namely an unrewarded extension of the teaching presence and the fading of traditional temporal expectations for engagement in teaching and learning are amongst the most cited by Portuguese academics.

When such risks are detected and losses seem insurmountable, disenchantment sets in and the knowledge accumulated related to problems and failures determines that initial trust does not suffice to reduce the complexity facing academics.

Conversely, the favourableness of e-learning seems to be affected by the introduction of a balancing effect in academics' perceptions of risks and benefits. This occurs by the process of institutionalising trust through management practices at the macro-organisational level, i.e. the adherence to a normative system that formally recognises and rewards the demands of academics' virtual presence. It is essential to identify academics' work, skills and role in e-learning development, linking this endeavour to a needs assessment exercise and to accreditation and assessment standards with measurable impact in career development. Similarly, I suggest the implementation of university-wide norms of virtual presence, accounting for and adequately rewarding academics' time allocated to the scholarship of e-teaching.

In turn, trust becomes embedded at the micro-organisational (individual) level, with knowledge equity, participation and contextualisation of the purpose and tools of e-learning's pedagogical innovation. To achieve this purpose it is necessary to produce symmetry of information regarding the role of e-learning within the wider framework of institutional objectives. Discipline-based communities of practice can be particularly successful in promoting cooperation between centre and periphery. Additionally, I suggest the provision of staff development opportunities, with a focus on the incremental nature of adoption, and on the contextualisation of the purpose and tools of e-learning's pedagogical innovation.

From the intersection of interventions at the macro and micro levels, academics' expectational assets can be capitalised to facilitate coordination and cooperation, and to mainstream adoption.

6.1 Addressing the research questions

The conclusions presented in the section above are directly responsive to the lived experience of Portuguese academics, contained in the proposed theory of ‘trust through organisational learning dialectic’. However, the validation of such conclusions requires that the research questions that initially guided the investigation (*vide* Section 1.1) are now revisited.

The first in a set of three questions was ‘What are the individual, strategic and operational factors that impact on Portuguese academics perceptions of e-learning?’. The findings advanced in this dissertation answer this question by proposing that the encounter between academics and the management of HEIs is paramount in overcoming perceived sources of risk/ mistrust associated with the adoption of e-learning, which operate as barriers. Thus, an efficient approach to implementing e-learning must integrate and support the dialogue between these two groups. These complexities seem to be present in academics’ preoccupations and anxieties and were expressed in terms of their aspiration for: (1) a people-centred approach focusing on information, participation, training and communication; (2) existence of supportive administrative systems and the alignment of e-learning solutions with organisational policies and infrastructures.

Accordingly, the overcoming of actional-personal and structural-organisational barriers is a condition of confident and trustful adoption of e-learning, following a progressive integration of: (1) individual academics’ capacity to develop new insights and ideas concerning experiences of e-learning (trust to change); (2) academics’ capacity – as a professional group - to achieve shared notions of validity for e-learning experiences (trust to integrate); and (3) the institutional capacity to embed e-learning in HEIs’ structures, routines and strategies (trust to institutionalise).

The second research question introduced in the opening section of this dissertation was ‘What are the trust barriers that hinder academics’ confident e-learning adoption?’, and is answered with the identification of 55 barriers, broadly divided into ‘actional-personal’ and ‘structural-organisational’ dimensions.

Actional-personal barriers to trust in e-learning refer to academics’ individual thinking, attitudes and behaviour, and self-interested/ self-governed action. They include:

insufficient intrinsic motivation; e-learning definitional profusion; perceived lack of relative advantage; unrealised managerial and delivery efficiency; unrealised pedagogical value; epistemological disagreement; technological determinism; occupational mindsets; inability to deal with demands of student-centred learning; different knowledge bases; issues of ownership and control of knowledge; persistence of defensive routines; dominant risk-avoidance culture; resistance to innovation; prejudice against online learning and teaching; perceived erosion of high status professional identity; lack of functional and technical expertise; extended teaching presence; difficulties in adjusting to new temporal frames of work; unprepared students; self-interest and opportunistic behaviour; unfulfilled autonomy to design learning experiences; misconceptions of successful adoption; past experiences of failure and conflict; bounded rationality; reputation risk; increased visibility; and leakage of confidential information.

Structural-organisational barriers are characterised by existing routines, structures and practices and are expressed culturally in the formulation of strategic intent, in formal regulations as well as in the processes of decision-making, dominance and discipline. This group of barriers is further divided into strategic and operational levels. The strategic level refers to HEIs' ability to sustain commitment by focusing organisational attention on e-learning, providing operational definitions, making room for individual contributions, and allocating resources. The barriers identified at this level are: monolithic academic culture; outdated management-held core values; cost-cutting driven policy; governmental patronage; market-driven adoption; pervasive research culture; low learning and teaching-oriented values; lack of recognition; low levels of participation and communication; power structures and relations; fear of administrative control; lack of a clear mandate for implementation; inconsistent organisational strategy; misalignment with educational strategy; turfism; and lack of organisational homophily.

Operational performance barriers refer to how HEIs translate strategic direction into operational reality, creating competitive advantage in the process. The barriers identified at this level are: bureaucratic overload and internal fragmentation; measurable goals and performance feedback; perceived incompatibility with work rules and regulations; forced top-down change; insufficient incrementalism; lack of a responsive normative framework; insufficient reward; intellectual property rights; inconsistency between adoption goals and

quality criteria to measure them; inadequate specialised services; and underestimated organic development.

Finally, the answer to the last research question - 'How can perceived risks and vulnerabilities be mitigated in order to allow academics to enact trust in e-learning?' - comes in the form of the emergent substantive theory of 'trust through organisational learning dialectic'. This substantive theory is situated in the "historical, local and interaction context of the area of study" (Charmaz, 2006:xii), which is the context of Portuguese Higher Education Institutions.

In brief, the theory posits that a mix of informal and formal structures is necessary to manage the risk and uncertainty perceived by academics, when endeavouring to implement e-learning at institutional level. Academics' trust in e-learning is achieved when HEIs provide opportunities for local dialogue and consultative fora to reflect on the fundamental values and purposes of e-learning. The purpose of these is to identify points of convergence and conflict with e-learning until the purpose, value and process of e-learning becomes both ingrained in academics' practice and embedded in the operational routines of HEIs. At this stage, an organisational learning dialectic has become part of the political process of HEIs. Democratic reflexivity and critical pluralism will not cease to engage academics and the management of HEIs in (1) the continuous problematisation of e-learning as a challenge to traditional approaches to teaching and learning, (2) in the reduction of e-learning adoption costs, and (3) in the explicitation of extrinsic and intrinsic rewards and clear rules of engagement that reduce mistrust and induce a more confident and trustful adoption.

6.2 Limitations

All research approaches encounter difficulties and limitations. Acknowledging them does not decrease the value of the research, but rather enriches it by making the underlying assumptions and premises of a study transparent and open to review and critique.

The findings from this research were drawn from more than 60 participant academics that experienced the process of e-learning adoption in the context of public, research-oriented Universities in Portugal mainland. Accordingly, this study lies firmly within

the interpretive epistemological tradition as the analysis was contextually grounded in time, place, culture, and situation (Charmaz 2006:130-131).

In more practical terms, this means that the findings cannot be representative of all academics and all HEIs. However, the issue of generalisability should not be a concern, considering this is a qualitative research, therefore the researcher was aware from the beginning that no single method can fully grasp the variations in people's experiences. Denzin and Lincoln (2005:7-8) acknowledge this inherent limitation by stating that there is no single interpretive truth and that the contribution of qualitative research is to provide insights and knowledge into the world of lived experience. Accordingly, this work provides valuable insights for those who are confronted with the need to appraise academics' experiences and practices, in the context of e-learning implementation.

Furthermore, the fact that the proposed theory complements and extends the findings of previous research conducted in the same substantive area of e-learning adoption in Higher Education - yet in different contexts (e.g. Canada, United Kingdom) - validates the applicability and the reliability of the claims advanced in this dissertation.

The number of participants in the study may be considered a limitation of this work. However, it is above the number of informants used in a previous grounded theory doctoral study of academics' adoption of educational technology in USA research Universities (Moser, 2006). More importantly, more than numbers and frequencies, this research followed the principle that "the ultimate quality and credibility of the work lies with the richness, depth, suitability and sufficiency of the data" (Charmaz 2006:18).

Finally, although Grounded Theory offers qualitative researchers a practical set of analytical steps to understand complex social processes, the researcher has encountered limitations.

Since Grounded Theory uses constant comparison and sets no discrete boundary between data collection and analysis, a critical moment in the application of the method is finding when saturation has occurred. Understanding that this moment has occurred is not immediate or obvious, particularly for the novice researcher. Suddaby (2006) considers this to be the product of a tacit understanding, and Strauss and Corbin (1998:136) identify it as "the point in the research where collecting additional data seems counterproductive". In this research, that moment occurred at the 31st interview. However, the somehow indeterminate nature of saturation invited a fundamentalist drift towards positivism and a

search for the potential (later unconfirmed) emergence of something new. This justifies that data collection stopped at the 65th interview, which in hindsight was later than necessary.

Another limitation is tightly tied to the method's interpretive nature and refers to the realisation that what distinguishes underlying elements of data from superficial readings of content is the researchers' sensitivity. This quality, essential in the Grounded Theorist, is something that only experience (Turner, 1981) and constant immersion in the data (Langley, 1999) can develop. In order to mitigate this limitation, the research design for this project included a pilot study that was seen as a context sensitisation exercise. This was a useful exercise, however the substantive theory only emerged much later in the process and actually followed a direction that was not anticipated at the start. Therefore, researcher sensitivity may not have immediately detected the achievement of theoretical saturation.

6.3 Implications for practice

The recommendations extractable from this research relate to practical strategies that can assist traditional HEIs overcome the issues that spark the mistrust and resistance of academics, and therefore help them move towards a more sustainable embedding of e-learning. In general terms, Portuguese HEIs should:

1. Provide incentives and resources to support departments to develop technology-enhanced learning experiences. Many of the innovations occurring on campus-based institutions are spearheaded by academics at individual level. Incentives and resources could be designated to institutionalise change at departmental level, fostering adoption trajectories that are transparent to recalcitrant academics.

2. Remove obstacles to academics' engagement with e-learning systems and promote inter-departmental and inter-unit collaborations. As research becomes increasingly interdisciplinary, so does teaching. Academics should engage with teaching challenges, particularly teaching and learning online, in a cross-disciplinary context. Accordingly, HEIs need to encourage partnerships within and between departments.

3. Develop new ways to support academics wishing to redesign existing or create new modules with web-based components, and create more venues for academics to exchange information about innovative teaching practices. Strategies should be found to encourage sharing of best practices in promoting e-learning activity, through staff forums, web-based exchanges, and other venues. The creation of disciplinary centres for excellence in teaching (e.g. at Faculty or Departmental level) can support academics creating innovative online courses and serve as a forum for peers to engage in pedagogical inquiry and dialogue.

4. Provide incentives, recognition and reward for academics who experiment with new approaches to teaching online. Strategies can include different approaches to measuring teaching workload; course improvement resources and incentives for active academic and departments; teaching awards for innovation and creativity; and recognition of online teaching effectiveness and pedagogical innovation in the hiring, tenure, and promotion process. It is also recommended that significant contributions to effective online learning and teaching (such as the production of learning objects) carry weight in the overall performance appraisal of academics.

5. Leverage mentoring resources for academics by fostering collaborative communities. The collaboration between educationalists, e-learning champions, subject matter experts and technologists involved in instructional design is fundamental.

6. Institutionalise online curricular strategies. Departments should be encouraged to seek departmental consensus (at Pedagogical Committee level and also at Scientific Committee level) on the content and learning objectives of the online component of courses, so that investments of time and resources in (re)designing contents result in long-term payoffs. Wherever possible – i.e. when there is no breach of intellectual property - course innovations and online instructional resources can be shared on an institution-wide basis and made accessible to other instructors as appropriate. Opportunities for team teaching and collaboration within and across departments should also be encouraged to foster knowledge transfer and new skill development.

7. Address the issue of ownership, authorship and digital publication conditions through the negotiation of institutional policy. Clarifying copyright and ownership rules applicable to a particular HEI would stimulate the production of digital curricular materials and facilitate intra-institutional exchange of teaching resources. To this end, academics and institutions could negotiate and formally agree on policy that covers the creation, use, ownership and distribution of electronically developed pedagogical materials. A good organising principle for this policy would be the determination of levels and categories of contribution for both academics and their institutions.

8. Increase the visibility of programs that promote online teaching and academics' innovative teaching practices. HEIs have traditionally disseminated information about research findings based on scholarly research. The same kind of attention should be given to teaching accomplishments to teaching and learning successes online.

9. Enforce supportive policy changes to reinforce the importance of teaching online. Policy changes should strengthen HEIs' ability to support online teaching and reinforce its importance on campus, namely through the revision of policy on appointments (to give teaching and teaching online more prominence), and through accountability to a supra-institutional monitoring agency with an e-learning quality assurance mandate.

10. Make the evaluation of student learning and the quality of teaching online more central to HEIs' culture. This can be achieved through actions at different levels such as: collecting systematic data on student learning outcome through a review of course evaluation; developing a consistent approach to the institutionalisation of peer observation of teaching; imprint changes to appraisal schemes so that academics feel encouraged to develop their teaching role in line with the aims of the University through the discussion, review and setting of clear, relevant and measurable objectives in the short, medium and long term.

6.4 Future work

Further research should continue to explore the ways in which “trust can be profitably approached in organisation theory through the interaction of organisational forms and managerial philosophies” (Creed and Miles, 1996:34). It should pursue the conceptualisation of e-learning adoption as a mixed-motive process - posing dilemmas to academics’ individual self-interests and institutional structural interventions and solutions - focusing more specifically on understanding how can organisational and psycho-social factors converge to jointly shape positive sentiments and a sense of professional accomplishment.

At a deeper level of analysis, the interactive relationship between the steps and processes of e-learning adoption on the one hand and the persistence of typified and symbolised spaces of action within and around Higher Education Institutions on the other could be expanded in the light of Strauss’s (1993) Social Arenas theory, in an attempt to grasp and represent “the perspectives and properties of all major actors (including collective social worlds and nonhuman actors) in a particular arena of mutual concern in which certain actors are implicated” (Clarke and Casper, 1996:602). In the case of e-learning adoption in Portuguese HEIs this would imply extending the scope of the study to capture and understand the perspectives and properties of HEIs’ management structures, the sentiment of students’ towards the role of educational technologies, and the dimension of policy and funding embodied by the Ministry of Education and Science.

In more detail, the following strands of research could be pursued, based on some of the recommendations and implications for practice outlined in Section 6.3:

- (1) ‘The enforcement of policy changes to reinforce the importance of e-learning’. This strand would imply exploring how e-learning policy drives organisational and pedagogical change within specific higher education institutions;
- (2) ‘The institutionalisation of online curricular strategies’. In this case, a resource-based definition of change focused on developing e-learning could

provide an action-research framework to identify and take advantage of an institution's strengths and core capabilities.

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Appendices

To support the description of research processes and the discussion of research findings in this dissertation, three appendices are attached.

Appendix 1 is a sample of interview scripts administered to academics used during the pilot study stage. Appendix 2 is a sample of interview scripts administered to academics during the main data collection process. Appendix 3 is a sample of the coding definition list – an instrument that was used interactively and in articulation with a quotation list, a sample of which is shown in Appendix 4. These three tools and the research ethics have been introduced and discussed in Chapter 3 Methodology and Research Design.

Appendix 5 is the information sheet given to informants in advance of data being collected.

Appendix 6 is the informed consent form used to obtain informants' agreement to participating in the research.

Appendix 7 contains a selection of extracts from the original data in Portuguese.

Appendix 1: Pilot study interview guide

<p>1 – Can you describe your personal experience as a user of e-learning?</p> <p><i>Fale-me da sua experiencia pessoal de utilizacao de e-learning.</i></p>	
<p>2 – As a teacher, what would you define as the major benefits associated with the implementation of e-learning systems in Higher Education Institutions?</p> <p><i>Enquanto professor, quais os maiores beneficios que encontra na implementacao de sistemas de e-learning nas universidades?</i></p>	
<p>3 – Which factors determined your decision to adopt e-learning systems?</p> <p><i>Que factores determinaram a sua opcao pela utilizacao de sistemas de e-learning?</i></p>	
<p><i>Triggers/ Prompts:</i> <i>Easy distribution of resources and learning objects;</i> <i>Pedagogical innovation;</i> <i>Flexibility.</i></p>	<p><i>Disponibilizacao simplificada de recursos e objectos;</i> <i>Inovacao pedagogica:</i> <i>Flexibilidade.</i></p>
<p>4 – Do you feel your institution encouraged you and supported you in the decision to adopt e-learning? How?</p> <p><i>Sentiu-se motivado e apoiado pela universidade nessa escolha?</i></p>	
<p><i>Triggers/ Prompts:</i> <i>Institutional strategy;</i> <i>Policy;</i> <i>Pressure;</i> <i>Peers.</i></p>	<p><i>Estrategias e linhas orientadoras;</i> <i>Políticas ao nível da universidade;</i> <i>Pressao;</i> <i>Colegas</i></p>

5 – Have you felt any resistance or do you sense any barriers to e-learning adoption? What in your opinion are the most significant barriers to a more generalised mainstreaming of e-learning at institutional level?

Sentiu bloqueios e resistencias? Quais os maiores obstaculos a uma adopcao generalizada do e-learning?

Triggers/ Prompts:

IT infrastructure and skills;

Pedagogical awareness;

Work patterns and teacher activities.

Competencias tecnologicas e infraestrutura;

Sensibilidade pedagogica;

Sobrecarga de trabalho.

6 - Do you feel you had to adapt or change your teaching style and teaching philosophy as a consequence of adopting e-learning? How would you describe this process?

Teve de adaptar ou modificar as suas praticas pedagogicas e a forma como ensina online? Como descreve esse processo?

Triggers/ Prompts

Transmission vs. collaborative construction;

Instructional design issues;

Curricula and teaching and learning activities.

Transmissao vs. construcao colaborativa do conhecimento;

Adequacao dos curriculos e oferta pedagogica;

Desenho e ajustamento das disciplinas e actividades educativas.

7 – What type of teaching and learning activities do you develop online?

Que actividades de ensino-aprendizagem desenvolve online?

Triggers/ Prompts

Fora;

Assessment;

PBL;

Collaborative learning.

Foruns;

Testes/ avaliacao;

PBL;

Collaborative learning.

8 – What kind of practical benefits do you associate with the use of e-learning. Do you feel there is a relationship with the quality of the teaching and learning experience?

Que beneficios praticos, directos e indirectos detecta no uso do e-learning, ao nivel do seu trabalho como professor e ao nivel da qualidade das aprendizagens dos seus alunos?

9 – How do you describe the level of support available at your institution? Is there adequate technological support, training, and content development support?

Existe uma estrutura de apoio tecnologico, formativo e ao nivel dos conteudos, aos professores que usam o e-learning?

10 – How do you think universities can stimulate the adoption of e-learning by academics?

O que pode ser feito pela universidade para fomentar a apropriacao do e-learning por parte dos professores?

11 – How do you keep up to date with the developments in educational technology?

Como se actualiza relativamente aos desenvolvimentos do e-learning?

12 – Would you agree with governmental intervention and the development of specific e-learning development policy? What is your expectation regarding this type of policy?

Concordaria com a definicao de politicas indutoras e de apoio a criacao de programas de e-learning pelo Ministerio da Ciencia, Tecnologia e Ensino Superior? O que esperaria de politicas deste genero?

Appendix 2: Main study interview guide

1 – What was to you the greatest motivation to start using e-learning systems?

- Were your expectations fulfilled?
- Would there have been place for your institution to do something in particular to raise your interest at an earlier stage?

Qual foi a sua motivacao para comecar a usar o e-learning nas suas praticas de ensino?

- *As suas expectativas foram cumpridas?*
- *Considera que alguma accao da universidade ou algum outro factor pudesse ter despertado o seu interesse mais cedo?*

2 - Considering your personal experience, how would you define e-learning?

Como define e-learning, a partir da sua experiencia de utilizacao?

3 – From your personal perspective, how would you describe the process of embedding e-learning in your teaching and learning activities?

Como descreveria o seu processo de adopcao e implementacao do e-learning nas actividades de ensino-aprendizagem?

4 – What would you trust more: institutional guidelines and training sessions or the informal development of skills in interaction with peers and in the context of specific projects?

- What is your view on cooperation with colleagues as a means to promote innovation with educational technology?

Confia mais nas orientacoes da universidade e nas accoes de formacao ou no desenvolvimento informal de projectos e competencias em colaboracao com colegas?

5 – Which factors at institutional level (your department, your university) and in terms of the academic career do you think act as barriers and enablers to e-learning projects?

Que factores ao nivel do departamento, da propria universidade e da carreira academica julga facilitarem ou dificultarem o sucesso do projectos de e-learning?

6 – Reflecting on your personal and professional practice, and also in your identity as an academic, what do you think are the most fundamental barriers and enablers to successful e-learning adoption?

Ao nivel da sua percepcao pessoal como academico, quais sao os factores mais significativos que determinam a capacidade ou vontade dos professors para adoptar e implementar uma inovacao tecnologica como o e-learning?

7 – How was the agenda for e-learning developed in your university and in your department?

Como foi construida a agenda para o e-learning na sua universidade e no seu departamento?

8 – What type of arguments were advanced in support of e-learning mainstreaming?

- *Was it common to find arguments against implementation?*
- *Who were the proposers and who were the opponents?*
- *How was the implementation process monitored and evaluated?*

Quais foram os principais argumentos usados a favor do estabelecimento institucional do e-learning?

- *Houve argumentos contrarios a implementacao?*
- *Quem foram os proponents ou agentes desses argumentos?*
- *O processo de implementacao foi, nalgum momento, avaliado?*

9 – Why do you think e-learning was adopted in this university?

Na sua opiniao, por que razao foi o e-learning adoptado nesta universidade?

10 – Can you describe any institutional initiative that you feel has influenced your decision to adopt e-learning?

Pode descrever alguma iniciativa que considere ter influenciado a adopcao do e-learning?

11 – Do you consider that there is an alignment or convergence between e-learning and your institution’s teaching and learning strategy?

- **And is there some sort of alignment with your personal teaching strategy?**

Considera que existe um alinhamento entre o e-learning e a estrategia de ensino da sua faculdade ou departamento?

- *E com a sua estrategia pessoal de ensino?*

12 – Were there any changes in your institution with a view to preparing the implementation of e-learning?

- **How would you describe the nature of the change process introduced by e-learning?**
- **What it a rapid or slow change?**
- **Was it a vertically imposed change or was it developed gradually?**
- **What support services are set in place to help academics?**

Registaram-se mudancas institucionais de algum tipo (novas politicas, estruturas de apoio, departamentos ou processos) com vista a implementacao do e-learning?

- *Como descreveria a natureza do processo de mudanca introduzido pelo e-learning?*

- *Foi uma mudança rápida ou lenta?*
- *Foi imposta verticalmente ou desenvolvida pelos professores na base e depois alargada?*
- *Que serviços de apoio, concreto, existem para apoiar os académicos?*

13 – What in your opinion should be the role of government in the definition of a strategy for e-learning?

Como avalia o papel da tutela governativa na definição de estratégias para o e-learning?

14 – From the point of view of academics, what do you think are the greatest challenges and opportunities related to an effective use of e-learning in universities?

Quais são, na sua perspectiva, os grandes desafios e as grandes oportunidades para o uso futuro do e-learning na sua universidade, na perspectiva do professor?

15 – What do you think are the advantages and disadvantages of e-learning?

- **And in your opinion what do you think are the advantages and disadvantages of campus-based instruction?**

Quais considera serem as vantagens e desvantagens do e-learning?

- *E as vantagens e desvantagens do ensino presencial?*

16 – What do you think are the characteristics of quality online teaching and learning?

Quais são para si as características e os princípios de um ensino de qualidade em e-learning?

17 – Can you describe your conception of online pedagogy?

- Do you find differences or similarities with face to face teaching?
- How would you evaluate academics' pedagogical competence and readiness to embed educational technologies in their practice?

Pode falar da sua concepção de pedagogia no ensino online?

- *Encontra diferenças ou semelhanças na pedagogia do tradicional ensino presencial?*
- *Como avalia a capacitação pedagógica dos professores universitários, nomeadamente a preparação para integrar as tecnologias no processo educativo?*

18 – How did you manage your transition to e-learning from the point of view of time?

- Do you think e-learning and how it affects teaching time was effectively embedded in the workload allocation frameworks?

Como conseguiu gerir o tempo para preparar a transição de modos de ensino tradicionais para o e-learning?

- *Como avalia a actual contabilização dos tempos lectivos e a sua relação com o e-learning?*

19 – How do you think the adoption of e-learning has impacted you at both personal and professional level?

De que forma e que a adopção do e-learning nas suas práticas de ensino o afectou pessoal e profissionalmente?

20 – Can you identify your strengths and your weaknesses as an online teacher?

Consegue identificar os pontos fortes e os pontos fracos da sua pratica de ensino online?

21 – In your opinion, should e-learning be considered as an indicator or as requirement in the recruitment, performance appraisal and promotion of academics?

Na sua opiniao, que papel deve ter o e-learning e a utilizacao de tecnologias educativas nos processos de recrutamento, avaliacao e progressao na carreira academica?

22 – Do you feel personally and professionally fulfilled and adequately rewarded for your choice to adopt e-learning? Do you feel your investment is adequately acknowledged and compensated?

Como descreve, em termos de realizacao pessoal e profissional, a transicao do ensino tradicional para praticas com recurso ao e-learning? Sente que o seu investimento e valorizado e compensado de forma justa?

23 – Are thinking about keeping or adjusting your level of engagement with educational technology?

Pensa manter os niveis de utilizacao de e-learning e de tecnologia educativa que tem presentemente nas suas praticas futuras?

24 – What advice would you give to an academic who is about to make the transition from traditional face-to-face teaching to e-learning?

Que recomendacoes daria a um professor que esta prestes a fazer a transicao de um ensino eminentemente tradicional para o e-learning?

Appendix 3: A sample of the ‘code definition list’

Categories		Codes (Barriers)	Definition	
Trust to Change	Structural-organisational assurance	Strategic	Monolithic academic culture	Strong professional allegiance to research combined with reduced propensity to change and innovation in practice.
			Cost-cutting driven policy	Perception that the institutional push for e-learning implementation follows a cost-cutting strategy.
			Governmental patronage	Perception that the institutional push for e-learning implementation follows a governmental agenda and is determined by funding cuts.
			Market-driven adoption	Perception that the institutional push for e-learning implementation results from a need to find alternative sources of funding.
			Outdated management-held core values	Management is not up-to-date with the latest developments in technology-enhanced learning and lacks a coherent teaching and learning strategy.
		Operational	Bureaucratic overload and internal fragmentation	Perception that work patterns are affected by attending to multiple and conflicting demands, aggravated by cumbersome accountability systems.
			Measurable goals and performance feedback	Realisation that performance appraisal systems are not linked to teaching quality criteria and therefore fail to set a standard and to properly assess practice.

Appendix 4: A sample of the ‘quotation list’

Categories		Codes (Barriers)	Representative statements
Trust to integrate	Actional-personal confidence	Extended teaching presence	“We are busy day and night, all the time, even during weekends. Working rhythms and patterns are intensified are very distinct to traditional teaching (...)” (Q3:35:70).
		Temporal frames of work	“E-learning changes the temporal dimension; it imposes a new temporal regime and imprints new rhythms to the teaching practice” (Q11:43:79).
		Lack of functional and technical expertise	“(…) Over and over I hear the same excuse: academics don’t react positively towards educational technology; they barely used the systems that were being tested (...)” (Q7:3:3).
		Unprepared students	“Students are generally unprepared to deal with the degree of self-regulation imposed by e-learning. E-learning emphasises emerging autonomy and responsibility of students to take charge of their own learning” (Q16:29:108).
		Self-interest and opportunistic behaviour	“The issue of self-interest is related to the personality characteristics of each individual. Some individuals are naturally competitive and all they worry about is the speedily advancement of their careers. It’s legitimate” (Q4:27:32).

Appendix 5: Information sheet



The
University
Of
Sheffield.

RESEARCH INFORMATION SHEET

Dear participant,

You are being invited to take part in the research project *Dynamics of Attitudinal Alignment: A Grounded Theory of Academics' perceptions of e-learning in Portugal*.

Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

1 – What is the research project's purpose?

The objective of this research is to understand Portuguese academics' perceptions of e-learning in traditional face-to-face universities.

The identification of enabling conditions as well as of barriers and niches of resistance towards adoption will help develop a theory that explains, based on academics perceptions, what determines the successful implementation of e-learning.

2 – Why have I been chosen?

You are being invited to participate in this research as an academic directly engaged in the development of e-learning. Your knowledge as a practitioner and as an expert in technology-enhanced learning is welcome to identify the trends of e-learning practice in Portugal, from the perspective of academics.

3 – Do I have to take part?

It is entirely up to you to decide whether or not to take part in this research. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without fear or prejudice and without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

4 – What will happen to me if I take part?

Your participation in this study entails engaging in a semi-structured, open-ended interview with the purpose of understanding your personal perceptions of e-learning development, in your own

University. The interview may last between 30 to 60 minutes, during which you will be asked to speak openly about your experience of e-learning embedding processes and appropriation impact. Your interview will be digitally recorded. After the interview, the recording will be transcribed into Word documents and fully anonymised, as any reference to participants' identity will be eliminated. Additionally, all information disclosed in the interview process will remain strictly confidential.

5 – What do I have to do?

To avoid disruption or restrictions to your lifestyle, interviews will be scheduled to your best convenience, in a free and comfortable environment.

6 – What are the possible disadvantages and risks of taking part?

Your participation in this study does not imply any identifiable risks or disadvantages. As the identity and affiliation of participants will not be recorded, there is minimal risk that the study will constitute an invasion of your privacy. Questions were designed as not cause harm, anguish or discomfort. If you feel uncomfortable answering any of the questions, feel free to express your concerns. You are, of course, free to decline to answer such questions. You are moreover encouraged to refrain from disclosing any information that you may consider defamatory, incriminating, or otherwise sensitive.

7 – What are the possible benefits of taking part?

Your participation in this research will contribute to enlarge the scope of knowledge available about academics' perceptions of e-learning in Portugal. An understanding of the contexts in which e-learning appropriation takes place, from the academic's perception, will facilitate adoption through the identification of barriers and success factors.

From a managerial perspective, the results of this analysis can help identify strategies to achieve academics' engagement and therefore to maximise the benefits of e-learning adoption across Universities.

8 – What happens if the research study stops earlier than expected?

It is not anticipated that the research project may go over the planned time frame or stops earlier than expected. In this is the case, participants will be informed of reasons and consequences.

9 – What if something goes wrong?

If you wish to express any concern or make a complaint regarding the conduct of the research project, please contact the researcher's supervisor. If needed, verification of serious adverse events can be obtained by reporting research misconduct to the University of Sheffield's Registrar and Secretary Office. Contact details are listed at the end of the document.

10 – Will my taking part in this project be kept confidential?

All the information that is collected about you, as well as any information that you give during the course of the research will be kept strictly confidential, as ensured to all participants in the consent form. You will not be able to be identified in any reports or publications. During analysis, you will be assigned a number allowing complete anonymity. Your interview but not your name will be recorded and transcribed, with all records being kept for a period of 5 years with the researcher or the project supervisor in a secure place. After this period all transcripts will be destroyed.

11 - What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

Because the objective of this research is to offer qualitative descriptions and analysis about the sequence, pattern and structure of e-learning appropriation by academics as an unfolding process, the contribution of your genuine experiences and viewpoints is essential to studying the dynamics of the relationship between e-learning technology, users, their practices and the context in which use takes place.

12 - Will I be recorded, and how will the recorded media be used?

The audio recordings of your activities made during this research will be subject to participants' informed consent and used only for transcription and analysis purposes. No other use will be made of them without the participant's written permission, and no one excluding the researcher and his supervisor will be allowed access to the original recordings. Audio recordings and all digital documentation will be stored in a password protected account accessible by a user account for the researcher. Back-ups will be onto removable storage located within a lockable cabinet or else onto password protected networks at the University. All electronic files will be stored in a password protected account for a period of 5 years.

13 - What will happen to the results of the research project?

The results of this research will be published in a doctoral thesis. Information gained during the research project may additionally be published, in the form of interview transcripts, in academic journals, books and conference papers; and used for subsequent research. In all of the aforementioned circumstances, the participant's name, affiliation and position title will never be used in relation to any of the information provided.

Participants will be notified upon publication of results in the doctoral thesis, and copies will be forwarded upon request.

14 - Who is organising and funding the research?

This research was awarded a grant by the Portuguese National Foundation for Science and Technology (FCT), with the reference SFRH/BD/39056/2007.

15 - Who has ethically reviewed the project?

This research operates under the rigorous research ethics protocols of the University of Sheffield. It has been ethically reviewed and approved by the Ethics Review Panel of the Information Studies Department.

Contact for further information:

If you have a question about any aspect of this project, please speak to the researcher concerned or his supervisor, who will do their best to answer your query. Contact details are listed at the end of the document.

Thank you for your help with this research.

Kind regards,
Jorge Tiago Martins

Contact details:

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Appendix 6: Consent form

Title of Research Project: **Dynamics of Attitudinal Alignment. A Grounded Theory of Academics' perceptions of e-learning in Portugal**

Name of Researcher: **Jorge Tiago Martins**

Participant Identification Number for this project:

Please initial box

1. I confirm that I have read and understand the information letter dated *[insert date]* explaining the above research project and I have had the opportunity to ask questions about the project.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

Lead Researcher contact details:

Dr Miguel Baptista Nunes
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3. I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses, and to publish anonymised excerpts of my interview. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.

4. I agree for the data collected from me to be used in future research

5. I agree to take part in the above research project.

 Name of Participant Date Signature
 (or legal representative)

 Name of person taking consent Date Signature
 (if different from lead researcher)
 To be signed and dated in presence of the participant

 Lead Researcher Date Signature
 To be signed and dated in presence of the participant

Copies: Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Appendix 7: Selection of Extracts From the Original Data in Portuguese (interviews Q13; Q24 & Q47)

Q13 Full Interview Transcript

Começaria por pedir à Professora que descrevesse a apropriação/ integração das tecnologias educativas na sua prática enquanto docente e que a partir dessa prática me desse a sua definição operacional do que é o e-learning.

Olhe eu tenho depois uma apresentação que lhe dou na qual tentei reflectir um pouco sobre o porquê da minha adopção das tecnologias e do e-learning ao nível do ensino e no fim das contas do meu interesse por esta área que se prende com factores que têm a ver com a minha formação inicial, que se prendem com factores que têm a ver com contextos, nomeadamente estar desde 86 no departamento de didáctica e tecnologia educativa, que tem a haver com vários aspectos. Aliás eu baseei-me numa autora que não lhe sei dizer o nome, mas depois na apresentação tu vês. Eu acho que há razões pessoais e há razões de percursos profissionais, há razões epistemológicas, pronto e é do conjunto desses diferentes factores, é o conjunto desses diferentes factores que faz com que eu utilize as tecnologias tanto ao nível das minhas práticas como ao nível da supervisão e dos trabalhos que eu oriento, sejam trabalhos. Que eu não oriento só trabalhos relacionados com a didáctica, mas a maior parte dos trabalhos que eu orientei até agora quase todos eles passam pelas TIC enquanto recurso de aprendizagem e que tem que ser usado de uma forma fundamentada como te disse há pouco, e fundamentada tanto ao nível daquilo que se pretende ensinar, portanto da área científica, como eu ao nível eu diria da didáctica, mas podemos dizer dos processos de ensino aprendizagem. E o processo de ensino aprendizagem, por seu lado, também o meu processo de ensino também é muito influenciado, isto indo ao percurso profissional pelo facto de eu estar como eu disse desde 86 num departamento de didáctica e tecnologia educativa que é um departamento que é forte a nível do país e é também um centro de investigação, um dos melhores centros de investigação em educação. Só há dois centros de investigação da FCT com excelente nas áreas das Ciências Sociais e um deles é o nosso. Na Educação não há mais nenhum. Tem a

ver com razões epistemológicas e essas razões epistemológicas prendem-se com o facto de nós termos feito muita reflexão não só sobre o que é o processo de ensino/ aprendizagem e essa reflexão eu faço-a nomeadamente no âmbito das disciplinas didácticas que dou que são mais didácticas relacionadas com as Ciências mas não só. E quando nós pensamos e quando nós tentamos fundamentar e levar os nossos alunos a aderir às propostas relativamente a como deve ser organizado, como deve ser perspectivado o desenvolvimento curricular e como deve ser organizado o processo de ensino/ aprendizagem, nós vamos buscar informação e tentamos fundamentar as práticas não só do ponto de vista das perspectivas que temos relativamente ao que é ensinar hoje em dia, que não é o que era ensinar há vinte e há trinta anos. Há vinte e há trinta anos ensinar era muito instruir, transmitir conteúdos. Hoje em dia, ensinar é permitir que cada um, pelo menos é essa a perspectiva que tenho, dar condições para que cada um de nós desenvolva o potencial, as capacidades que tem e por isso é que se fala em desenvolvimento de competências. Bolonha ao nível superior, um dos conceitos de base é a aprendizagem ao longo da vida, é a flexibilidade de percursos, é o desenvolvimento de competências. Tudo isso enforma as nossas práticas mas quando nós pensamos no processo de ensino/ aprendizagem, pensamos, também, e fundamentamo-lo do ponto de vista epistemológico que é o que eu estava a dizer. Do ponto de vista da epistemologia e de como se constrói conhecimento, a literatura aponta para aí e as nossas reflexões também. Nós temos sido muito influenciados por correntes mais sócio-construtivistas que põem o enfoque na construção do conhecimento do aluno em interacção com o outro. As tecnologias, aqui, têm a mais valia da interacção com o outro, sendo a interacção com os professores que tem na mesma turma ou que tem no curso, mas essa interacção extravasa o contexto local e é uma interacção mais global.

É potenciada.

Pode ser potenciada. Não quer dizer que ela aconteça mas pode ser potenciada e portanto temos aí uma mais valia clara que é de relevar. Houve uma evolução, eu fiz uma evolução. Lembro-me de quando fiz a tal reflexão de que te falei, depois eu posso mandar-te a apresentação. Quando comecei a dar aulas, estava em termos epistemológicos, num

paradigma empiricista, digamos, mas depois, a vinda para o departamento de educação e o contacto com autores e nomes de realce ao nível da didáctica das Ciências, como seja o professor Cachapuz que escreveu um livro sobre perspectivas de ensino que está mais virado para o ensino das Ciências. Pronto, mas quando nós abordamos esses assuntos com os alunos eu pelo menos pauto-me por tentar ser consistente com aquilo que eu defendo e se eu defendo uma perspectiva do ponto de ensino/ aprendizagem numa determinada perspectiva a que o professor Cachapuz chama de ensino por pesquisa, pronto se quiseres saber isso eu também te posso dizer...

Inquiry based learning.

Anda por aí. Se eu defendo uma perspectiva, essa perspectiva para o ensino/aprendizagem tem que ser consistente e utilizar na minha abordagem o processo de aprendizagem explorado e nas minhas abordagens faço-o a nível de análise. Estou a lembrar-me, por exemplo, nos últimos artigos que estão no prelo para ser publicados. Vão ser sobre a análise da gestão curricular feita numa comunidade online envolvendo investigadores e professores porque uma das minhas preocupações também é a articulação entre investigação e a prática. É isto que eu estava a dizer se eu do ponto de vista da investigação tiver uma determinada perspectiva de ensino na minha prática docente para haver coerência eu tenho que tentar implementá-la. É isso que eu tento fazer. Daí que se tu quiseres ter acesso ao professor Cachapuz sobre que é que isso... mas anda por aí pelo inquired based learning, project based learning. Há vários nomes: trabalho de projecto, questionamento relativamente à estratégia de ensino, o questionamento, a interacção, a avaliação, envolver os alunos no processo de avaliação e ser encarada também como uma ferramenta para se aprender. Portanto todas essas coisas que são aspectos didácticos, de organização do processo eu tento implementá-las.

Esta era uma das perguntas. A outra era: Qual é a sua definição operacional de e-learning, tendo em conta a utilização que faz nas suas práticas?

O e-learning há várias definições.

Eu não quero a académica e a perfeitinha.

Não, não eu vou partilhar contigo a reflexão que eu fiz quando no último semestre que dei aulas, dei aulas numa disciplina de ensino à distância. Está tudo escrito na WIKI que eu fiz. Está lá, está disponível ao nível de doutoramento. É no programa doutoral em Multimédia e Educação e a forma como eu organizei a unidade curricular vem na sequência de uma outra que eu tinha organizado sobre avaliação de software educativo. Eu tenho andado a pensar... Há vários termos associados ao e-learning e a minha reflexão ultimamente. A tal reflexão que eu ia partilhar contigo tinha a ver com e-learning se e-learning se pode associar a distant education. Encontrei uma definição que eu achei muito interessante sobre distant education. Não sei se se aplica ao e-learning. Não tinha a ver com as tecnologias, mas tinha a ver com estes processos de interacção e de co-construção que podem, não necessariamente passar pela utilização das tecnologias. Mas no meu caso passa.

Mas o “e” de e-learning para a professora implica distância ou não necessariamente?

Não. Não necessariamente. Se nós pensarmos que “e” é de electronics, pronto, toda a aprendizagem se quisermos... e essa é uma das definições que aparece na literatura, toda a aprendizagem suportada pelas tecnologias pode ser considerada e-learning. O “e” de electronic e learning de aprendizagem. Eu, neste momento, não tem estado muito nas minhas preocupações o que é que é isso do e-learning. Tem estado muito mais nas minhas preocupações o que é isso de blended learning que está associado ao e-learning. Das leituras que fiz, a definição mais apropriada que eu encontro e que remete para um e-learning, para associar o e-learning à distância tem a ver com a organização de actividades que misturam, de alguma forma, sessões presenciais com sessões síncronas ou assíncronas à distância de maneira a que o melhor dos dois contextos seja explorado. E isso não está ainda bem analisado. Porque é que nós próprios, e nós já temos alguma experiência porque o mestrado em Multimédia e Educação deu depois origem ao programa doutoral já tinha uma organização em blended learning. A organização é por módulos sequenciais e cada módulo tem a duração de mais ou menos um mês e é feito com sessões em trabalho à

distância e há duas sessões presenciais. Uma ao fim da primeira semana e a outra no final do módulo. Nós aí não fizemos o exercício de explicar porque é que estas sessões são nesta altura e o que é que se faz melhor. Explicar para nós próprios. Embora tenhamos organizado desta forma os programas temos que fazer o esforço de tentar perceber, porque às vezes fazemos as coisas intuitivamente e só depois à posteriori é que fazemos uma reflexão uma apreciação crítica. Do ponto de vista curricular é uma ideia que é defendida muito recentemente.

Mau é não haver a apreciação crítica.

Exactamente. Porque nos anos oitenta ou nos anos sessenta quando se falava de ensino programado e quando se falava de estruturação de um curso ou de uma disciplina perspectivavam-se as coisas: definiam-se os objectivos; a seguir definiam-se as estratégias, documentavam-se, avaliavam-se. Havia uma cronologia de um processo de desenvolvimento curricular que, hoje em dia, já não se vê da mesma forma. Muitas vezes, nós actuamos, enquanto práticos, seja do ensino secundário, seja do ensino superior por pressões diversas, por muitas solicitações, porque temos que pensar o que vamos fazer com os alunos amanhã e, portanto actuamos intuitivamente e usando o know how que temos, os conhecimentos que temos e depois o importante é que haja uma reflexão sobre a forma como as coisas foram implementadas e as melhorias. Os próprios processos de ensino/aprendizagem, estes tipos de investigação/ acção que hoje em dia e a flexibilidade de hoje em dia, do ponto de vista teórico temos tantas pessoas como o Fullan o Hadgrave a defender estas perspectivas e nem sempre são feitas. Pronto, eu tento, não digo que consiga em todos os contextos fazer isso, mas, pelo menos nalguns ir aprendendo e ir melhorando as minhas práticas. Portanto para te dar resposta ao que é e-learning, eu não tenho uma definição precisa do que é e-learning. Ando à procura de uma definição e acho que encontrei uma definição para o blended learning porque as minhas práticas são de blended learning e não de e-learning se nós pensarmos em e-learning associado inteiramente á distância, porque senão desde sempre, desde que vim para o departamento de didáctica eu me interessei por e-learning porque o meu doutoramento já tinha a ver com a utilização das tecnologias para facilitar os processos de aprendizagem. Pronto, mas eu não

considero ter começado a trabalhar em e-learning nessa altura. Comecei a trabalhar em e-learning quando comecei a utilizar ferramentas de comunicação à distância. Portanto, se eu pensar na minha prática e quando é que eu acho que comecei as minhas práticas de e-learning foi quando eu comecei a utilizar os grupos do yahoo, antes de haver Blackboard e WebCT e essas coisas na casa já eu andava a usar esse tipo de ferramentas com os meus alunos.

Essa reflexão que faz é muito interessante e leva-me a pensar na grande profusão de conceitos para definir muitas vezes realidades semelhantes e que também aponta para o facto de a essência da base tecnológica que faculta o e-learning e que possibilita as tecnologias educativas não é, propriamente uma realidade nova. Ela já existe de há muito tempo atrás, mas os conceitos vão mudando e a apropriação ela tem conseguido concretizar-se num main streaming ou pensa que não?

Não, isso é um dos problemas que eu acho que, hoje em dia há e que é muito complicado para quem começa a dar os primeiros passos nestas áreas. O que não quer dizer que nas Ciências ditas exactas não aconteça. É que nós muitas vezes... eu estou a pensar nos eduquês. Quem está ligado à educação tem a etiqueta dos eduquês e de utilizar linguagens pouco precisas, que mais ninguém entende e portanto usar termos cuja definição não é consensual. Isso é uma realidade. Há nomeadamente nesta área também na educação e nesta área uma profusão de termos. Por exemplo, tu falaste-me em e-learning e eu agora, por exemplo, lembrei-me de outra coisa. A certa altura, andei a preparar uma apresentação sobre Mobile Learning e fui procurar a definição aos gurus do Mobile Learning à procura e cheguei à conclusão que a definição que eles adoptavam de Mobile Learning e que eu adoptei para a conferência e de e-learning era a mesma coisa. O que aconteceu também quando fiz a pesquisa, quando tentei clarificar o que era isso de blended learning.

Há uma grande circularidade não é?

Se tu fores ver autores que tentam clarificar o conceito, tu vês que o conceito que é associado, pode ser, o blended que é uma mistura pode ser de estratégias, pode ser de

tecnologias, contextos, presencial e a distância. É uma confusão. É tudo e mais alguma coisa.

Cabe tudo e nada.

A tal definição de mobile learning era a mesma coisa e no e-learning, no fim das contas é a mesma coisa. E depois ainda temos open education e open distance education. Há uma profusão de termos para quem começa a dar os primeiros passos na área. Primeiro que se entenda...

Isso dificulta o entendimento.

Óbvio, óbvio... o que há a fazer é: eu quero trabalhar nesta área.... vou buscar todas as definições que aparecem e, depois vamos tentar encontrar aquela que é mais consensual ou aquela que é utilizada por alguém com mais reputação. Foi o que eu fiz relativamente ao mobile learning. nesse artigo que eu escrevi. Fui utilizar uma definição de alguém que é uma das pessoas mais reputadas na área do mobile learning. Mas com a perfeita convicção de que aquela definição tanto podia ser de mobile learning como de e-learning. Estás a perceber? E, portanto, do ponto de vista cognitivo com algum conflito.

E isso para a professora que é desta área, para alguém que não tem essa sensibilidade e que se confronta com essa variedade de definições isso dificulta se calhar o entendimento a percepção do valor que subjaz...

Mas isso acontece aqui como acontece noutras áreas das Ciências Exactas. Ah, sim, sim, não tenho a menor dúvida. Porque isto tem um pouco a ver (vou ser um bocadinho incorrecta politicamente; politicamente incorrecta). Tem um pouco a ver com a demarcação de terrenos (para mim).

Entre áreas científicas?

E na mesma área – entre grupos por exemplo. Entre áreas científicas isso acontece por exemplo com a Física e com a Química. Onde é que estão as fronteiras? Hoje em dia, é muito complicado.

E os grupos tribalizam-se adoptando significados diferentes, é isso?

E na Física que são áreas onde eu estou mais à vontade, isso acontece. E isso do ponto de vista – agora vou á didáctica das Ciências e às dificuldades que os alunos do ensino básico e secundário têm para perceber alguns conceitos relacionados com os fenómenos que nos rodeiam porque os químicos chamam-lhe uma coisa... o mesmo professor porque no terceiro ciclo os professores de Física e Química são os mesmos. O mesmo professor na Química usa uma terminologia e depois na Física utiliza outra. E o fenómeno é o mesmo. É uma baralhada.

Sim, é uma ambiguidade conceptual muito grande.

Embora quem bata muito nos eduquês diga que é só dos eduquês, não é. Mas isto tem a ver um pouco... na realidade, no século XIX, terem-se estabelecido disciplinas compartimentadas que se considerava que havia disciplinas que tinham identidade própria e agora o que é mais defendido é que não podemos analisar um fenómeno sem ver diferentes perspectivas porque nunca o analisamos em profundidade se não o fizermos.

Sem o contributo de outros saberes?

Sim, da interdisciplinariedade, do trabalho em colaboração entre equipas, etc. Tudo isto faz sentido, mas pronto, está a ver outra vez a epistemologia e as reflexões epistemológicas de como se constrói a Ciência.

Percebo. O grande problema é depois a confrontação com o real e se as pessoas têm, de facto, essa capacidade de perceber epistologicamente como as coisas se interligam.

Vai-se ganhando com a experiência. Eu acho que isso não há que ter problemas. Isso tem mais uma vez que ver com a minha postura epistemológica neste momento. Muito mais relativista. Nós nunca temos respostas. As respostas que nós temos hoje para um problema e as soluções que temos, hoje, para um problema, amanhã serão outras. Isto não é só no contexto na área do e-learning porque as tecnologias estão a evoluir, porque há o político, também há o social... nós estamos em constante evolução e...Eu gostei muito desta definição. Tem a ver com o e-learning e educação á distancia. No mundo em que vivemos, com a evolução rápida das tecnologias tem trazido desafios a uma área de investigação que é relativamente recente. Consequentemente, os quadros teóricos os conceitos fundamentais são objecto de estudo e de aprofundamento de muitos investigadores nem sempre consensuais. Dessas polémicas, concordamos com o referido no artigo ... sobre o qual em que área em que nos iremos debruçar “Educação à distância” é definida da seguinte forma: Students taking responsibility for their own learning in distance education. Não é a educação á distancia que é importante é distância na educação. Isto são questões para mim que têm a ver com o processo de ensino/ aprendizagem. São questões pedagógicas. Não têm a ver com a tecnologia. Percebes?

Percebo.

A minha preocupação fundamental não é a utilização da tecnologia. É o processo de ensino/ aprendizagem e como é que eu posso facilitar, como é que eu posso organizar as coisas de maneira a que quem está a trabalhar comigo construa alguma coisa. Construa conhecimento, desenvolva competências.

E isso pode ser ou não com recurso às tecnologias?

Portanto o artigo tem a ver com a flexibilidade, o dar a voz ao aluno, o ir de encontro às necessidades que o aluno tem. O estar em constante negociação o ter contactos didácticos – não sei se estás familiarizado – ou seja, tu não tens um guião de disciplina pré definido que segues à risca e portanto, quando propões um guião de disciplina e quando propões

actividades, a primeira coisa que fazes é perguntar se estão de acordo; o que é que querem alterar. A minha postura é sempre esta.

No fundo, é quase a construção de um percurso de aprendizagem.

É isso. Quanto mais o ensino for estruturado mais distância há entre o professor e o educando. É isto que eu não quero que exista. A mim o que me interessa é que haja uma proximidade muito grande com quem trabalho, seja aluno que estou a orientar ao nível de uma tese, seja ao nível das disciplinas o que eu quero é fazê-los falar, é perceber quais as dificuldades, quais são as necessidades ... não é dar respostas, mas guiá-lo questionando, facultando recursos, mas sempre um processo em constante interacção.

É um processo dialéctico não é?

É. Portanto, quanto mais os alunos tomarem iniciativa relativamente à sua aprendizagem, controlarem e forem capazes de influenciar o processo menos distância existe na educação. A minha reflexão não tem muito a ver com: é a tecnologia...

Não é guiada por um determinismo ontológico que muitas vezes permanece neste domínio. Mas com prejuízo para as questões da didáctica e questões pedagógicas que a professora

Não. De todo. E como te digo isto não é uma coisa nova porque já ao nível do doutoramento todo o meu processo, eu não fiz nada sem antes ter feito investigação que era investigação em didáctica. Eu trabalhei ao nível dos conceitos da electricidade – ciência de formação de base e de ter estado cinco anos no departamento de Física. Comecei por identificar, por fazer um estudo para identificar dificuldades que os alunos tinham na aprendizagem da electricidade para depois desenvolver uma abordagem com professores. Há sempre interacção. Portanto, a dialéctica teoria investigação e a interacção, a articulação também

sempre esteve presente. Com professores, desenvolvemos uma abordagem ao ensino, esteve sempre presente um professor, para depois, a partir daí, desenvolver um recurso. Sendo eu das tecnologias não fui eu que o desenvolvi; desenvolvi com informáticos. Isto foi no final dos anos noventa, portanto, já na altura eu concebi o desenvolvimento de recursos educativos como algo que tinha que ser feito em equipas que envolviam professores e técnicos de informática. Faltavam os designers, mas estava lá eu que me estava a especializar.

É transdisciplinaridade.

Os métodos que se fala agora de desenvolvimento de recursos educativos, quando eu vejo agora, eu chamo processo iterativo. Mas, é um dos princípios que está nos métodos ágeis para depois usar o recurso com os alunos e desenvolvê-lo. Mas o próprio recurso ao nível da avaliação, fiz avaliação por peritos, fiz avaliação junto de professores e fiz avaliação ao nível dos contributos em termos das aprendizagens de alunos, de um grupo restrito porque o paradigma aqui da casa é muito qualitativo. Eu acho que nós temos que procurar... tenho dúvidas em relação aos paradigmas de investigação mais qualitativos, àquilo que eles nos trazem.

Eu tenho a mesma reserva.

Mas isso também tem a ver com o facto de eu ser docente de um departamento de didáctica e tecnologia educativa. E, portanto, do contexto em que eu me movimento e das influências da comunidade científica em que estou integrada. Neste momento, nós estamos todos mais motivados para as abordagens mistas que eu acho que fazem sentido. Embora, ainda não sei bem se são mistas se continua a ser abordagens eminentemente mais qualitativas com survey qualitativos. Houve um artigo que eu li há muito pouco tempo que fala do survey qualitativo e o despique compara-o um pouco com o survey estatístico e com as vantagens e desvantagens... Quando utilizamos questionários escritos, às vezes há quem diga que têm uma abordagem quantitativa que não é porque as amostragens não são feitas aleatoriamente... não são estudos experimentais, a maior parte dos estudos experimentais

são estudos que são feitos utilizando questionários, portanto são estudos quase experimentais; não são experimentais.

É que depois o tratamento da informação é quantitativo.

O facto de ser quantitativo não quer dizer... não sendo a amostra aleatória, um dos princípios de base da metodologia...

Pois, pois o sampling. Tem que ser aleatório e representativo.

Não sendo isso, o survey mesmo que o tratamento dos dados seja quantitativo, continua a ser... não é um método, a meu ver, puro. Mas isto, também, ao nível das metodologias não há metodologias puras. Isso é outras dificuldade de quem começa a trabalhar nestas áreas tem é onde é onde é que se enquadra no âmbito das abordagens metodológicas. Eu própria estava a falar neste: "The logic of qualitative surveys" Neste momento, tu vais ver ao nível do e-learning, estou a pensar nuns Canadianos, no Andersen, nos que trabalham muito ao nível de interações online. Garner. Há, pelo menos, dois ou três artigos de revisão de literatura sobre a área do e-learning do Open Distant Education que faz um apelo à utilização de metodologias mais quantitativas.

Eu queria perguntar à professora se confia mais nas orientações da universidade para apropriação do e-learning ou se acha que um professor que está, neste momento, a fazer a transição para um paradigma em que há uma presença digital, se deve confiar mais no desenvolvimento orgânico de projectos, por oposição a uma verticalização do que é, sei lá, uma estratégia de e-learning, por exemplo.

No contexto desta universidade, não é muito fácil responder e isso está documentado que a *[name of informant's institution omitted]* foi uma das primeiras a adoptar uma plataforma. A primeira foi a WEBCT, depois passámos para Black Board e, agora, fomos para o Moodle. Eu uso o Moodle, mas as tecnologias que eu utilizo também depende dos alunos. Depende

dos contextos. Ao nível das aulas, lecciono Multimédia e Educação que é um contexto em que há maior apetência para a utilização das tecnologias e, portanto, são contextos favoráveis a explorar tecnologias mais recentes e até em desenvolvimento, como é o Sapo Campus, como lecciono disciplinas de Didáctica e nomeadamente faço parte da equipa que dá as disciplinas que dá Avaliação em Educação no doutoramento em Didáctica e, aí, o contexto do ponto de vista de competências tecnológicas dos envolvidos é completamente diferente, quer no que respeita aos colegas, quer no que respeita aos alunos.

E aí procura conjugar...

Aí, por exemplo, como a maior parte dos doutorandos são professores nas escolas e, nas escolas, neste momento, ao nível do Ministério da Educação tem sido feito um esforço e tem-se incentivado a utilização de plataformas Moodle eu tenho usado mais plataformas. O que não quer dizer que, inicialmente, quando faço o meu levantamento ao nível das competências tecnológicas das pessoas que estão a trabalhar comigo não proponha a utilização de ferramentas mais abertas, em que tudo é posto e está disponível para todos que é o que acontece em Multimédia e Educação de há quatro anos a esta parte. Aí, nós não utilizamos plataformas fechadas. É tudo ferramentas abertas. Abrimos, primeiro as disciplinas numa plataforma fechada. A primeira pergunta que fazemos é se vamos usar isto ou ferramentas Web 2.0 e os alunos dizem vamos para as ferramentas Web 2.0 e a plataforma fechou. A negociação sempre. Relativamente á pergunta que tu fizeste. A *[name of informant's institution omitted]*, relativamente ao e-learning, foi uma das earlier adopters e, portanto, nós temos um contexto muito favorável. O que não quer dizer que eu tenha sempre utilizado aquilo que, ao nível dos corpos directivos da Universidade é proposto. Isto tem muito a ver com o facto de eu estar muito envolvida com o programa doutoral “Multimédia e Educação” e, por isso andar um bocadinho mais à frente dos colegas que utilizam as plataformas de e-learning para disponibilizar material. O que acontece na *[name of informant's institution omitted]* como na maior parte das universidades do país como acontece lá fora. Os estudos que têm sido feitos é isso que indicam. É que as plataformas de e-learning e as ferramentas de blogs e wikis que depois vai dar no mesmo não são usadas

para interagir, para negociar, para ir de encontro às necessidades dos alunos, são utilizadas para com estruturas já definidas...

Isso faz parte de uma pouca orientação e de um pouco alinhamento estratégico entre o que é uma visão pedagógica conjugada e articulada com a dimensão do saber e o conhecimento específico de determinada disciplina. Ou seja, continua a haver uma grande valorização do domínio do saber científico associada a um modelo ou um paradigma transmissivo?

Eu creio e é isso que a literatura diz que o que informa a utilização que a maior parte da utilização que os docentes do ensino superior faz das plataformas é precisamente essa perspectiva do ensino/ aprendizagem.

E isso corresponde a uma falta de capacitação pedagógica dos professores universitários?

A maioria não tem. Embora tenha sido feito um esforço a nível de todos os países e no nosso país também e na *[name of informant's institution omitted]* também de capacitação pedagógica dos professores. Formação contínua dos professores, nomeadamente agora com Bolonha porque os princípios de Bolonha estão apoiados em epistemologias de ensino sócio-construtivistas.

Que era o discurso da grande maioria.

Não eram, são. Porque senão as pessoas já faziam outro tipo de utilização da tecnologia. Já tinham outro tipo de aulas. Há agora umas bolsas de iniciação à investigação que a FCT financia. Um grupo de alunos que está a trabalhar no laboratório de avaliação de qualidade na educação que está ligado ao nosso centro fez um trabalho só de análise da informação que está disponibilizada nas páginas de Internet relativamente à *[name of informant's institution omitted]*. Se fossemos para outras universidades o panorama era o mesmo. Apesar de Bolonha, as pessoas dizem que falar de aprendizagem activa, centrada no aluno

e a partir de competências, vai-se ver os guiões de disciplina (já não se chama programas) que estão disponíveis e o que está definido são objectivos em termos de conteúdos, a avaliação baseia-se em testes pela avaliação também se vê qual é a perspectiva de ensino e, portanto, por aí vê-se que a maior parte dos nossos colegas não alterou as suas práticas. Pode-se tirar algumas ilações. Utilizam as tecnologias para quê? Para disponibilizar os materiais e depois na sala de aula os Power Point que os alunos já andam pelos cabelos com os Power Point.

É uma repetição do que era o quadro e o giz. Não muda nada.

Ainda por cima, a maioria não sabe fazer um Power Point. É texto, texto, texto. Não complementa em nada o discurso oral. Quem é da área da Tecnologia Educativa tem outra sensibilidade. A gente vai para encontros e é a mesma coisa. A maior parte não sabe que tem que ter consistência de design, que não deve utilizar texto, que o texto é para os tópicos, não deve utilizar animação nem sons porque são distratores. Deve utilizar, sim, esquemas, imagens para ilustrar o que está a dizer. É um apoio á comunicação. Não é um substituto. Aquilo, a maior parte dos Power Point o professor bem podia estar calado. Aliás, há professores que lêem os Power Point.

Esta é também a sua especialização e a sua área científica. E depois tem interesse pessoal. Conjuga-se com a predisposição epistemológica.

É uma das... Mesmo ao nível da supervisão, ao nível dos projectos utilizo este tipo de... porque eu acredito que as tecnologias nos podem facilitar o trabalho. Utilizo não só nas aulas. Em Educação e Ciências trabalhamos investigadores com professores para desenvolver materiais curriculares para o ensino básico e para o ensino secundário sobre uma temática que foi negociada para haver sustentabilidade. Estamos na década da sustentabilidade, está tudo dito. Ao nível da educação e ciências a sustentabilidade vista não só na vertente ambiental, mas também na vertente económica social. Sustentabilidade conceito transversal e abrangente. Utilizámos o Black Board para desenvolver o trabalho porque éramos três universidades com dez investigadores, trinta professores espalhados

pelo país, mas, mais uma vez, com sessões presenciais. As sessões presenciais e foram fundamentais porque muitos dos professores com quem estávamos a trabalhar não estavam habituados a comunicar à distância e à exposição. O projecto correu muito bem. Utilizo ao nível da supervisão também. Um dos últimos artigos que escrevi foi sobre a utilização da Black Board no apoio à supervisão. Lá estão, outra vez a aprendizagem formativa, as comunidades de prática. A forma como eu organizei os meus alunos também era por grupos, uns mais relacionados com a integração das TIC, outros mais relacionados com o desenvolvimento de competências transversais, outros com comunidades de prática; formávamos uma grande comunidade. Todos os trabalhos tinham a ver com TIC. Depois havia alunos no curso de especialização e mais uma vez fiz uma reflexão sobre os factores críticos de sucesso. Vamos ver o que vai dar porque queria prolongar e envolver outras pessoas. Nós, hoje em dia, temos uma grande sobrecarga com a orientação e eu não teria feito o trabalho que fiz, se mais uma vez o que aqui está não resultasse de ter posto a decisão do lado deles. Eu funcionei como facilitadora como mentora, tive vários papéis ao mesmo tempo ao nível de liderança, mas eles também.

Voltando àquela questão do problema e da dificuldade de muitos professores têm em fazer o alinhamento entre uma estratégia pedagógica e integradora das tecnologias. Acha que isso tem que ver com a estruturação da carreira dos professores, no sentido que há uma valorização da componente de produção científica e pouca valorização da – é um problema antigo, eu sei – mas não será ainda mais agudizado pela introdução das tecnologias, no sentido que, na perspectiva egoísta de um professor será muito melhor produzir cientificamente na sua carreira e progredir do que investir na componente pedagógica?

Eu não tenho uma única resposta para a tua pergunta. Nós vemos cada vez mais colegas de outros departamentos que não de educação a publicarem e houve um livro que saiu há pouco tempo que tem a ver com a formação a nível pedagógico dos docentes do ensino superior. Mas há cada vez mais um numero crescente de docentes do ensino superior a ficar sensibilizados para outras abordagens ao processo de ensino/ aprendizagem e dispostos a fazer as coisas de uma forma diferente. E a escrever sobre as pequenas experiências que

vão desenvolvendo. A *[name of informant's institution omitted]*, além de ser pioneira ao nível da adopção de plataformas de e-learning ou de educação à distância tem também feito um esforço de organização de workshops e de formação para os seus docentes. Não é só a *[name of informant's institution omitted]*. Outras universidades como *[name of institutions omitted]*. Esse livro é uma reflexão sobre experiências de formação que foram feitas na sequência dessas acções de formação e que os autores se disponibilizaram a escrever sobre o que é que fizeram e a reflectir um pouco sobre essas experiências e a divulgá-las. O artigo que temos aqui é sobre uma disciplina de avaliação de software onde eu utilizei blogs. Tenho publicado mais com a Lúcia porque ela tem ma bolsa de investigação do Programa Ciência durante cinco anos. Portanto, agora está contratada como investigadora, mas inicialmente fez um doutoramento e um pós-doc. mais na área de avaliação e depois concorreu a um segundo pos-doc. conmigo já mais ligado à avaliação de e-learning.

Mas, professora, o grande benefício e a grande vantagem que estes professores que estes professores que têm este tipo de preocupação escolhem é a realização pessoal e profissional porque vêm a criação de valor para as suas práticas...

É porque acabam por publicar também.

Mas isto é suficiente para trazer os outros que preferem ficar na sua zona de conforto e continuar a publicar e continuar a não ter preocupações deste tipo. Isso é suficiente para trazer estes ou não?

Não, é assim. A minha experiência enquanto docente do ensino superior mas também enquanto pessoa que está ligada à didáctica e está ligada à inovação me diz que nós nunca vamos ter 100 por cento a incorporar e a mexer...

Mas não é preciso mexer na forma como o sistema está organizado para ter... Sei lá na avaliação de desempenho dar mais peso a estes...

Sim, sem dúvida, sem dúvida alguma. Aliás quando foram discutidos os critérios de avaliação, internamente, uma das perplexidades que nós tivemos foi a dimensão docência e a dimensão pedagógica da carreira do docente universitário já ter algum peso, mas relativamente à componente científica é, nosso ver muito reduzida. E enquanto não for mais valorizada as coisas vão continuar assim. Mas, mesmo assim, voltando aos processos de inovação os processos de inovação demoram tempo e temos que ter consciência disso. Os meus cinquenta anos já me permitem olhar para estas coisas e ter maior tranquilidade relativamente à lentidão com que os processos de inovação se vão fazendo em educação. No ensino superior o que me vem são os mais de vinte anos ao nível da integração de tecnologias porque eu recebi os primeiros mil euros a tentar integrar as tecnologias ao nível dos contextos das escolas do ensino básico e secundário. Fiz parte da coordenação do *[name of informant's institution omitted]* do projecto Minerva em 87, portanto já lá vão muitos anos. E muitas das guerras que nós tínhamos então, continuam a existir. São as mesmas. As práticas dos professores de ensino básico não mudam de um dia para o outro e as práticas de investigação do ensino superior também não. É a mesma coisa. E os tais modelos que documentam como isto se pode facilitar, a passagem de umas etapas para outras, as pessoas têm que passar por etapas. Algumas pessoas podem saltar uma ou outra etapa, mas é um processo que demora a consolidar-se e que para as pessoas o respeito à diferença é importante. Não podemos fazer todos da mesma maneira.

Está a referir a esfera da individualidade e da autonomia relativamente às práticas dos professores universitários. Autonomia relativamente às práticas, ao modelo de aprendizagem...

Relativamente aos colegas do ensino básico e secundário, com este modelo de avaliação não sei se haverá.

Mas relativamente ao ensino universitário...

No ensino superior as coisas também começam a ser sujeitas a avaliação. Nós estamos sujeitos a avaliação, nós temos um sistema de gestão de qualidade e, portanto, todos os

semestres os alunos pronunciam-se, portanto, os problemas que vão aparecendo... já algum tempo que os cursos são avaliados, agora se essa avaliação tem repercussões ao nível das práticas do docente, tem uma sinalização, alguma coisa que não está bem e se isso, depois tem repercussões ao nível da progressão da carreira da pessoa... Mas, hoje em dia, a carreira universitária está muito complicada. E as perspectivas estão muito complicadas. Não temos perspectivas como nas outras carreiras.

A forma como os tempo de contacto e de ensino estão contabilizados diminui a predisposição de um professor para embarcar neste tipo de ensino, seja no uso de plataformas, seja no aprofundamento pedagógico no uso das tecnologias, os tempos não equivalem. Nós sabemos que precisamos muito mais tempo para preparar um conteúdo do que se tratasse de uma aula presencial em que tudo se esgota ali naquele momento na sala de aula.

Mais uma vez, eu remeto para aqui. Depende. Eu não preparo conteúdos. Eu organizei as coisas. Os conteúdos que ali estão disponibilizados. O trabalho que eu fiz foi de revisão da literatura das temáticas que foram seleccionadas pelos grupos. Os conteúdos foram eles que...

Fez orientação.

Fiz orientação. Agora há um modelo completamente integrado que é o Sage on Stage e há um alinhamento estratégico muito claro. E logo ao princípio se percebe o meu alinhamento, a minha estrutura. Eu organizo as coisas. Aqui está o mapa. Isto é por semanas, por módulos. Tens o que fizemos na primeira semana e tens o programa. Há, sempre um levantamento de percepções para ir de encontro à necessidade dos alunos. Houve a discussão da proposta do programa. Aquilo que te disse está aqui. Está aqui operacionalizado. Pronto, leitura individual, bibliografia recomendada, revisão da literatura, ficha de caracterização de leituras porque uma das competências era pesquisa e tratamento da informação. A proposta de trabalho foi uma revisão da literatura. E a avaliação por pares.

Está lá tudo. A avaliação que se fez dos colegas, dos artigos que foram produzidos está lá tudo.

Professora, quero agradecer-lhe muito. Quero perguntar-lhe se gostaria de acrescentar alguma coisa ao que discutimos, que julgue ser benéfico para a entrevista.

Deixa-me voltar aos objectivos do teu trabalho. Perspectivas sobre e-learning. Eu acho que mais do que a entrevista era importante tu fazeres, utilizares para fundamentares as tuas inferências o material que está disponível sobre o trabalho que eu desenvolvo e a forma como eu trabalho. A minha postura e as minhas perspectivas relativamente ao e-learning é que ele é blended learning e já vimos no início a definição. Neste momento seria importante tentar pensar porque fazemos coisas presencialmente e as outras as fazemos à distância e se essa é a melhor maneira de ajudarmos os alunos. Muito provavelmente o próximo questionário que faça, também tenho questionários de avaliação que estão disponíveis e que podes ver, tanto da outra disciplina como desta, mas deixa-me pensar um pouco. Eu acho que está muito influenciada pela minha força de estar na vida. Eu não sou uma pessoa de cultura individualista. Não sou católica praticante, mas a minha formação humana também de alguma forma são factores que influenciam a forma como eu estou nas aulas, a forma como estou na investigação, a forma como estou no Mundo. E eu sou uma que fiz engenharia, estive no departamento de Física, saí do departamento de Física, o que eu fazia era de laboratório fechado e eu sou uma pessoa de interacções, de colaboração que preza valores como o respeito pelos outros e essas coisas todas também influenciam a forma como eu faço tudo.

O facto de ser uma boa professora é informada por todos esses aspectos, por essa dimensão relacional.

Uma boa professora, uma boa investigadora. Sou uma pessoa que me dou, sou muito exigente.

Isso é no fundo uma posição reflexiva de que se estava a falar há pouco.

Também... que me ponho mais facilmente em causa a mim do que aos outros, ponho-me constantemente em causa.

Mas tem disponibilidade mental para isso?

Isso é uma das coisas difícil porque, hoje em dia, cada vez temos menos tempo para essas coisas. Quando eu entrei neste departamento, nós tínhamos tardadas de discussão. Elegíamos um tema e de quinze em quinze dias, de mês a mês juntava-nos para discutir o que tínhamos feito. Hoje em dia, andamos fechados todos nos gabinetes. E isso é uma coisa que me faz muita falta. Eu, neste momento, se queres que te diga, no momento actual e relativamente ao que se passa nas instituições de ensino superior portuguesas eu sinto-me muito mal porque vejo cada vez mais individualismo. Cada vez se fala mais de valores, de colaboração e interdisciplinaridade, mas cada vez vejo mais individualismo, cada vez vejo mais as pessoas preocupadas em publicar e cada vez vejo mais inconsistência.

Q24 Full Interview Transcript

Começaria por pedir ao professor que descrevesse a adopção e implementação do e-learning nas suas práticas enquanto docente e que, implicitamente fornecesse a sua definição operacional de e-learning.

Eu não sou de todo um utilizador exemplar das tecnologias como suporte no ensino, embora tenha algum envolvimento na promoção dessas práticas aqui na instituição. De alguma forma, também não deixo de ser um utilizador típico, mediano aqui na instituição. Utilizo basicamente as plataformas e as ferramentas de e-learning. Aqui na casa o blackboard é a plataforma institucional se bem que haja uma disseminação bastante alargada do Moodle. É o caso particular do meu departamento que utiliza o Moodle. Utilizo basicamente a plataforma enquanto depósito de documentos, os PDF correspondentes aos slides ou textos, pequenos questionários, pequenos materiais para divulgação de

documentos e como ferramenta de contacto para toda a turma. Se for preciso fazer um aviso ou mandar um email; basicamente são essas duas ferramentas: os avisos no painel da disciplina ou divulgação de email. Depois há uma ou outra excepção. Mas utilizo basicamente essas funcionalidades. Avaliações ou recepção de trabalhos. Numa ou outra disciplina acabei, há alguns anos por fazer recepção de trabalhos, mas hoje em dia acho que acaba por ser mais prático, mais expedito complementar isso com a utilização do email para aceitar os documentos acaba por ser mais fácil. Não sei porquê. Talvez por comodismo. Mas todas as outras funcionalidades, utilização de chats de fóruns não tenho feito essa utilização. Não por uma questão de princípio. Se calhar por comodismo ou as circunstâncias nunca se propiciaram para o fazer. Pergunta-me pela minha perspectiva do que é que é o e-learning ... tenho um entendimento muito alargado do que é o e-learning. A utilização de ferramentas tecnológicas para suportar o processo de ensino/ aprendizagem para mim é o e-learning. E aceito em contextos assíncronos, em contextos síncronos em contextos presenciais em complemento ou em contextos completamente remotos. Para mim todas essas situações são situações susceptíveis de ser classificadas como situação de e-learning. Portanto basicamente qualquer situação de aprendizagem que tem alguma mediação no suporte de divulgação ou mesmo na interacção para mim enquadra-se nessa classe.

E qual é a grande vantagem o grande ganho de incorporar tecnologias de e-learning no processo de ensino-aprendizagem na sua perspectiva?

Vejo vantagens em diferentes frentes. Há uma desde logo por se tratar de um canal cuja literacia dos alunos e à medida que o tempo passa cada vez é, na verdade mais forte. Chegam alunos que já nasceram, já cresceram e fizeram a sua adolescência fortemente baseada a sua inter-acção social nessas ferramentas e, portanto, para esses alunos é um mecanismo normal de comunicação e de ligação, partilha e, portanto, o que estamos a fazer é usar linguagens, contextos e mecanismos que são usuais para os alunos. Agora começa a viver-se com muita premência, à medida que começam a chegar alunos com 18, 19 anos e portanto apanharam o ano de 2000, por aí, no explodir e, portanto fizeram já todo o secundário com utilização destas tecnologias, utilização não em contexto de ensino, mas em contexto social. Há aí uma grande vantagem que é uma proximidade no contexto das

linguagens e ferramentas que estes alunos dominam. Há, depois, outra pool, outro conjunto de vantagens que tem que ver com as características das próprias ferramentas: a celeridade, a acessibilidade, o facto de ser em qualquer sítio, em qualquer tempo, portanto torna mais fácil a comunicação e o acesso a esses conteúdos por parte dos alunos e à interacção por parte dos docentes. Por exemplo, se quiser avisar de qualquer coisa para o dia de amanhã, consigo avisar em tempo útil e sei que o aluno, os mecanismos do velho placard que limitava o acesso aos alunos que estão mais distantes, que se deslocam expressamente para as aulas, com estes mecanismos passam a ser acessíveis, contactáveis, mais conectados digamos assim. Depois, também há fenómenos de economias directas, economias, passe o pleonasmo, economias económicas ou seja o impasse económico. Nestes tempos de crise e, em particular no contexto sócio-económico desgastado que é o contexto da *[name of informant's institution omitted]*. Isto não será verdade para um contexto como a *[name of institution omitted]* ou a *[name of institution omitted]*, portanto contextos sociais mais ricos, os custos de acesso à documentação e até as simples fotocópias eram custos tremendos. Tinham impacto no rendimento das famílias. O que eu quero dizer é que o aluno daqui é, tipicamente de uma família muito carente, muito pobre e o simples custo de algumas fotocópias é um custo muitas vezes incomportável para as famílias ou que exige um grande esforço. E, naturalmente, que a utilização destes meios vem resolver, em parte, isso. Hoje em dia, já há anos que não divulgo fotocópias, divulgo os documentos em PDF. Não sei se sempre legais, mas eu, pelo menos faço esse esforço. E, portanto, os alunos acedem dessa forma “gratuita”, basta ter o equipamento e o acesso à Net que é oferecido pela Universidade e, portanto, esse custo extinguiu-se. Isso parece que não, mas é um factor importante. É um factor de democratização do ensino, nomeadamente num contexto como este que nós vivemos aqui. São, basicamente, esses três vectores: os canais – a proximidade no contacto com os alunos, a questão da linguagem, enfim a geração Net e a questão económica.

Essa maior proximidade e essa intensificação do contacto com os alunos implica uma refuncionalização das funções do professor ou traz-lhes custos adicionais em relação àquilo que, por comparação eram as suas funções no modelo de ensino mais tradicional?

Deveriam, deveriam se fosse um professor exemplar e que utilizasse esses mecanismos em toda a sua potencialidade. Como já percebeu, eu faço uma utilização muito convencional na aula, pouca avançada digamos assim do potencial que essas ferramentas têm e, portanto, facilitam-me nessa relação, mas tenho a perfeita consciência que não aproveito até ao limite todo o seu potencial.

Mas porque tem consciência de limites que o impossibilitam de explorar mais profundamente ou por opção?

Não. Por opção na forma como eu estruturo as unidades curriculares e a forma como as lecciono, não é? Toda a gente tem leque, um nível de interacção e de participação que gere em função dos objectivos da unidade, do tempo que temos disponível. Eu digo isto. Vamos lá ver. Eu tenho consciência que se poderia fazer muito mais. A verdade dos factos é que uma pessoa tem que gerir o seu tempo e, sendo realista, digo isto porque muita gente acha que não, que é ao contrário, mas o leccionar de uma forma mais embrenhada, mais sustentada pelos mecanismos é mais exigente em tempo que as formas mais tradicionais. É preciso maior disponibilidade. É preciso... Se vamos utilizar chats é preciso ter disponibilidade para estar uma ou duas horas no chat, é preciso disponibilidade para fazer os posts para participar nos fóruns, enfim... é preciso muito tempo para interagir com a turma, para o fazer com qualidade. Se for em faz de conta, também se faz, mas para fazer com qualidade é preciso muito tempo e a verdade dos factos é que, enfim, o conjunto, enfim, a direcção do departamento o estar na reitoria, a presidência de institutos de interface ou outros afazeres a que a vida académica obriga, deixam muito pouco tempo para a actividade lectiva e portanto, deliberada e decididamente faço-o dessa forma pouco entusiasta, arranjando um compromisso entre o que me parece unidades curriculares minimamente, leccionadas com um mínimo de qualidade exigida. Não é minimizando a qualidade, mas enfim com a qualidade exigível, mas que me impedem de fazer um aproveitamento pleno das ferramentas. Pode ser que um dia, com mais sossego, mais tempo... Deixe-me referir um aspecto importante: - Tem que ver com a incapacidade que as organizações têm de perceber o esforço adicional que implica o aproveitamento dessas ferramentas. Há uma convicção ou pelo menos essa prática que é que as instituições não

percebem que passar a leccionar de uma forma fortemente suportada pelas tecnologias na disciplina traz um acréscimo de esforço docente de envolvimento docente, portanto há um pressuposto que ou fica na mesma ou até há menos envolvimento o que é completamente errado.

A apreciação que é uma forma de facilitismo ou de escapar ao trabalho...?

Não é de escapar, mas que aligeira e quando uma pessoa tem uma turma de cento e vinte pessoas não é de todo assim. Ou faz de faz de conta, ou faz utilizações como esta que eu estou a tentar descrever, muito superficial, só para utilizar aquilo que é mecanismo facilitador o que não é verdadeiramente a exploração do e-learning em toda a sua plenitude. Eu lembro-me e tenho utilizado aqui muitas vezes... Lembro-me de há uns poucos de anos, numa conferência qualquer nos Estados Unidos em que se discutiu bastante isso e lembro-me do testemunho de uma universidade, de um professor em que chamava a atenção para o facto de numa prática na Universidade dele que era o seguinte: - quando num trimestre - ele dava um curso por trimestre – se num determinado curso ele passava a suportar aquilo por ferramentas de e-learning nesse trimestre ele não leccionava. Era considerado um esforço de preparação dos conteúdos.. Estava dispensado de leccionar para preparar. É uma boa consciência do esforço que essas coisas exigem. Se eu aqui ou em qualquer outra universidade portuguesa, provavelmente dissesse: - Eu vou dar aquela disciplina utilizando e-learning e, portanto, este ano não lecciono as pessoas caem todos em cima de mim.

Isso funcionaria como um incentivo? Era um incentivo temporal específico e preciso que poderia... derrubar barreiras de confiança, por assim dizer?

Vamos ver... Há o custo de aprendizagem. Ou uma pessoa nasce ensinada ou qualquer coisa que não utiliza e passa a utilizar há um custo de aprendizagem.. À boa forma portuguesa, nestas coisas, os amadores em part time, acha-se que estas coisas são meio intuitivas e tal... cabeçada aqui, cabeçada acolá a pessoa vai aprendendo muitas vezes resulta. É como aprender um desporto. Aprender golfe sem professor ou ténis sem professor... apanha os

vícios e depois para se desfazer deles... É a mesma coisa. De facto, a generalidade das pessoas não precisa de formação para construção de conteúdos ou utilização da plataforma e tal... E dá uns toques e aprende umas coisas. Mas para aprender isto de uma forma generalizada, massificada e bem, com grande proveito, obviamente é preciso formação, é preciso suporte, é preciso tutoria ou aconselhamento e a possibilidade de aceder facilmente e é preciso um esforço individual de aprendizagem, de saber o que é que está em jogo e como é que se fazem as coisas. E, ou se criam condições para esse esforço ocorrer nessas situações ou se fazem como se fazem em todo o lado com as boas vontades nos tempos, dá-se um jeito aqui, um jeito acolá que não é de toda a forma certa.

Essas intervenções passam por uma revisão da forma como a carreira académica está estruturada, como os tempos de ensino estão distribuídos e alocados ou passa por outro tipo de mudanças?

Está a tocar em assuntos muito sérios porque como sabe a avaliação da carreira docente em Portugal, estamos a falar de Portugal é esmagadoramente focada na qualidade e na produtividade científica do indivíduo. Portanto, o que um tipo faz em termos de extensão, projectos de iniciação pelo meio ou que faz projectos de divulgação de Ciência ou que faz em termos de envolvimento de projectos pedagógicos, de formação é muitíssimo pouco valorizado. São projectos de investigação e desenvolvimento internacionais e a escrita de artigos, aquelas revistas indexadas são as grande bitolas. Há aqui todo um contexto que diz: - isto são as coisas importantes. É por isto que eu sou avaliado, se quero progredir, é por aí que eu tenho que me mostrar. E, portanto, isto nasce logo torto. A questão da excelência, da modernidade que o indivíduo possa e deva ter no contexto do ensino é absolutamente minorizado. Não é valorizado.

Não traz sequer benefício pessoal.

Quer dizer, ninguém ganha um concurso de associado por ser reconhecidamente um excelente professor. Isto dá logo um ponto de partida tremendo para as pessoas estas questões. Eu costumo dizer que é o aspecto... Nós também temos que perceber que a

Universidade portuguesa está em tempo de grande aflição, de grande pressão, de falta de recursos de suborçamentação, demasiada mudança em muito pouco tempo. Portanto, está naquilo que, tipicamente é uma crise. E obviamente em tempos de aflição, as pessoas folgam no que são menos avaliadas. Uma pessoa vai folgar onde sabe que são os aspectos menos considerados, menos observados e menos avaliados. É em todo o processo de ensino que uma pessoa mesmo que não o queira implicitamente acaba por o fazer e acaba por o descuidar. Portanto, isto quer dizer que toda esta problemática aparece num contexto que não é prioritário para aquilo que é a carreira de um indivíduo na universidade. Não digo que não devesse ser. Constatado que não é em igualdade de circunstâncias com os outros aspectos.

Uma valorização semelhante dos dois domínios? Produção científica e pedagógica e eu diria dos três que é questão do impacto no contexto social.

Transferibilidade. Porque eu não vejo que a Universidade possa ser, de uma forma generalizada uma instituição de sucesso se não tiver impacto consequente, digno, objectivo na sociedade em que se insere nas suas diversas componentes: na cultural, na social e na económica, obviamente. Ou seja, o que eu estou a dizer é que uma universidade que faça só papers excelentes e que não tenha qualquer consequência na criação de emprego e qualidade de vida no contexto em que se insere será uma universidade de fracasso. Agora, infelizmente não são esses os padrões em que... se bem que se começa agora a ver, em toda a Europa, um crescendo de atenção na questão dos impactos, dos investimentos e no impacto das coisas que se fazem. Ou seja, não interessa fazer por fazer a boa execução dos projectos não é só pela boa execução financeira. Começa-se cada vez a medir... Quais são os resultados, mas não são os resultados... enfim, vai-se buscar à sociedade e ao contexto e ao domínio a observação dos resultados que o projecto justificou. Quantos empregos é que isso criou, qual é a riqueza, qual é o impacto que isso teve no produto interno bruto, o que é que resulta dali; não é quantos artigos ISI. Felizmente Começa-se a ver abandonar esses critérios como sendo critérios únicos. Também não estou a defender o abandono desses critérios. Estou a dizer é que quando se abandonam os outros as coisas também estão mal.

Na gestão desse desequilíbrio entre esses três domínios terá que partir de cima, da tutela, ou é a universidade que tem que se aperceber ou é capaz de se aperceber sozinha dessa dimensão?

Nós temos universidades que são muito pouco autónomas, muitíssimo dependentes do financiamento central que é muito espartilhado. As universidades hoje em dia... Isto é tudo um ciclo vicioso, mas as universidades hoje em dia gastam muito dinheiro. Para aí 80 % do seu orçamento vai para salários. Depois, a hipótese de despedir uma pessoa é nula. As progressões e outras coisas são obrigatórias. Mais de 80 % do orçamento da universidade está amarrado, está num espaço que não é da sua gestão. Não se pode despedir ninguém, não se pode impedir de promover ninguém... o que sobra são menos de vinte por cento. Depois se puser despesas de funcionamento, segurança, limpeza, etc., chega ao fim para aí com 7%. Numa universidade como a do Minho que tem 120 000 000 de orçamento por ano, estamos a falar em 7%, 10%, estamos a falar em 12 000 000. é o que fica para gerir. É muito pouco não é. É quase nada. Depois ao nível de financiamento, quer dizer que o nível de financiamento exigência de receitas próprias tem vindo a aumentar. A *[name of informant's institution omitted]*, neste momento, ronda os 50% de autofinanciamento, de receitas próprias. Ou seja, nos últimos anos o estado tem vindo a diminuir a sua participação devido a receitas próprias. Só que isto é como a tal história do burro que aprendeu a não comer e morreu não é... É que se olharmos para os níveis internacionais, as universidades portuguesas já estão muito perto dos limites de referência internacionais ou seja, as boas universidades deste mundo não se financiam mais de 50%. Esperar que a universidade se financie 70 ou 80% é irrealista porque mais nenhuma universidade se financia assim. Nós já estamos no limita, mas continua-se a fazer essa pressão e temos que ter em consideração que o nosso contexto económico não é como o da Holanda ou outro qualquer. Nós abrimos as portas e vê em 50 km vinte, trinta indústrias de grande poderio, de grande capacidade financeira, de grande financiamento em que os departamentos de investigação entram pelas universidades. Nós olhamos aqui à volta e não vemos coisa nenhuma. Em Portugal há três ou quatro, top à volta de Lisboa. Mesmos os pouquinho que havia aqui pelo Norte mudam as sedes para Lisboa... enfim sobram as PME que é a grande massa da nossa economia e as PME por tradição não têm essa vocação de pôr dinheiro nas universidades nem são incentivadas nesse sentido. Nós estamos amarrados a

um contexto que é o que é, mas que não é o que os nossos políticos consideraram e anseiam que fosse. Portanto, há aqui uma série de vícios que tornam isto muito difícil.

Isso em termos de financiamento, mas em termos de uma visão e de uma estratégia para o ensino superior como é que avalia... por exemplo interpreto Bolonha como uma interferência e é talvez uma das mudanças mais profundas que têm acontecido nos últimos tempos. Isso constitui uma oportunidade para o desenvolvimento do e-learning e se sim foi ou não bem-vindo?

Deveria e poderia ter sido, mas neste contexto de grande aflição não foi. Eu olho para a minha universidade e conheço razoavelmente muitas outras... conheço uma série delas razoavelmente. Quando digo que aqui não se aproveitou, é generalizável a quase todas elas. Não conheço casos de sucesso. Mas a poesia, o modelo de facto conceptualmente muitíssimo interessante e bem feito que está associado a Bolonha precisa de um contexto de implementação que não é o que a gente tem. Para já, precisa de uma mudança claríssima de atitude por parte dos alunos que não é verosímil. Porquê? Porque se mantém as grandes turmas os grandes números, a massificação, a mesma distribuição de docentes para gerir aquela massa toda de alunos, enfim não se mudaram os contextos e isso transformou todos aqueles princípios de auto-aprendizagem acompanhada que seria um excelente espaço para aproveitamento dessas ferramentas que servem precisamente para isso, mas como eu há pouco referi que exige obviamente uma participação e um tempo diferentes que deviam ter ocorrido, mas ao entender-se: - não, isto faz-se com as mesmas, com os mesmos ovos vai-se fazer mais omelete, fazer uma coisa completamente diferente, mas com os mesmos recursos a coisa pura simplesmente não funciona. Não tem funcionado e duvido que venha a funcionar. Claro que como qualquer generalização encontramos excepções a isto. Podemos encontrar um ou outro curso, mas que inevitavelmente está associado à ocorrência de circunstâncias que são aquelas que um modelo como o de Bolonha preconizava. Portanto, turmas pequenas, uma grande proximidade com os departamentos, uma vivência de muito perto com os departamentos e as coisas mostra-se que, de facto podiam ter corrido assim. Agora, nos cursos com os mesmos números em que

deveria ser acompanhado de condições quer de espaço, quer tecnológicas, quer de tempo. Ao retirar essas coisas todas não se criaram condições para que isso funcionasse.

Estava a pensar nos contratos de confiança que o governo estabeleceu com as universidades para aumentar o número de diplomados. Se isso não é também uma tentativa de, indirectamente induzir uma mudança de práticas? E se isso terá alguma relação com a possível flexibilização da oferta das universidades? Uma política muito clara que diga que as universidades devem adoptar o e-learning como solução para a oferta não me parece que exista... mas este tipo de preferências...

Mas há, não é? O contrato de confiança diz que tem que apoiar uma parte dos alunos à distância, mas eu acho que é mais do mesmo.

Isso não induz mudança de práticas na realidade?

Há-de acabar por fazer algumas coisas. Eu vejo aqui dentro da casa, o reitor está entusiasmado com essa mudança, com esse compromisso, está á procura de uma estrutura, de uma forma de fazer isso bem feito. Pode ser que daí derive alguma coisa.. Não sou muito entusiasta dessas coisas. Para fazer essas mudanças é preciso recursos, é preciso haver condições para que as vontades e essas atitudes possam surgir.

E a cenoura continua a ser a mesma. A cenoura financeira continua a ser a mesma.... mais financiamento...

Que é fictício. Se fizer as contas, se vir quanto um tipo recebe para aqueles números que agora se está a comprometer. Se for ver os milhões e dividir vai ver que o valor per capita dos novos é inferior àquele que já estava de base. Ou seja, é um mau negócio, ou seja é fazer mais é fazer com mais dinheiro, mas o dinheiro que é preciso é menos do que seria para os cursos actuais.

Sente que a exigência tem sido crescente?

Se tem sido crescente? Sim.

E não é recompensada?

O crescente sim. Nós tínhamos anos de funcionamento com um modelo. Bom ou mau... De repente há aqui uma revolução e exige-se novas formas. E o que eu digo é: - não foram criadas condições honestas para esta revolução. Exige-se que se acompanhe a mudança, mantendo tudo na mesma. E isso não se faz assim. Há custos de aprendizagem, mudanças de atitude. Isto não funciona. Também não foi honesto em relação aos próprios alunos. Não foram criados os contextos. Ou seja, isto não é só perspectivado do ponto de vista do docente. Os docentes têm o seu curso e querem fazer...mas depois têm uma obrigação de induzir essas novas práticas por parte de quem está a aprender, que é verdadeiramente ser professor não da matéria, mas do processo de aprendizagem e portanto há uma dedicação e um esforço que tem um esforço pedagógico na mudança de atitude dos próprios alunos que não tem nada a ver com as matérias. Não se criaram essas condições. Tudo isto foi, digamos assim, um flop e, agora, exige-se que as coisas funcionam por milagre, por decreto, porque mudou, os planos reorganizaram-se e estava resolvido. Não basta mudar cursos. Estas coisas funcionariam se houvesse um redesenhar dos cursos, como se atingem estas competências. Em montes e montes de casos foi trocar. Agora os primeiros anos chamam-se primeiro ciclo e os últimos dois chama-se mestrado e um tipo sai daqui, de facto, a meio, ao fim dos três anos e não tem competências nenhuma. Tem parte das competências dos antigos cursos. Claro que há exceções, mas muitos dos cursos foram reorganizados e formados desta forma.

Isso contribui para desvalorizar o segundo ciclo.

Transforma isto numa falácia, num engano... acontece muito nos cursos de engenharia. Um tipo ao fim de três anos não é coisa nenhuma. Tem as disciplinas básicas, mas aquilo devia ser que é ter competências profissionais que sejam exequíveis ao fim de três anos ele ainda

não as tem. Tem as coisas básicas que é precisamente o contrário. No fundo, ainda é o pior. Ainda é o teórico. Aquilo que devia ser para ele exercer profissionalmente alguma coisa está precisamente ao contrário. Ao fim de três anos, só têm as competências para aprender depois alguma coisa que era a formulação de base dos cinco anos.

Um tipo de engenharia andava aqui com a Matemática, a Física e a Química e, ao fim de três anos, de repente: - mas eu não sei fazer nada.. E depois no 4º e no 5º anos consolidava os assuntos à volta do curso.

Eu sou pré Bolonha, portanto esse corte ...

Mas, ao fazerem esse corte, acontece, precisamente o contrário. Não sabe fazer, absolutamente nada. Quando teoricamente devia ser ao contrário. É fácil teoricamente fazer estes desenhos, mas, depois na prática é tudo muito complicado. Fazendo uma síntese, tudo isto foi mal programado, precipitadamente conduzido e mal acompanhado nomeadamente relativamente ao contexto que uma revolução desta natureza exigiria.

Exigia mais recursos humanos?

Mais recursos humanos e materiais. Todo o contexto. É a mesma coisa no e-learning. O e-learning era fundamental para uma mudança de atitude e foi uma oportunidade perdida. A maturidade das ferramentas aparece no tempo certo daquilo que é a revolução da reforma de Bolonha, portanto podia ser uma factor perfeitamente indutor e desaproveitou-se isso. Se for a ver a maioria dos cursos estão com níveis de utilização incipientes. Quer dizer, não se reformataram para se sustentarem no modelo. A maioria das utilizações, não vou falar das outras utilizações, mas aqui na minha a maioria das utilizações faz-se como eu faço. Não anda longe dos velhos paradigmas. Apenas usamos as ferramentas para facilitar algumas coisas que são tão óbvias que seria um disparate não utilizar.

Sim, porque estruturalmente não estão criadas as condições para ser essa utilização mais aprofundada.

Se quiser ver um indício disso vá ver os horários. Se for a alguma universidade peça os horários de há dez anos. Vai ver que estruturalmente não são diferentes. Deviam ser, não é ? Se usassem ferramentas de e-learning os horários tinham que ser radicalmente diferentes. E não são. Faça esse exercício porque é muito importante. Por exemplo, os primeiros alunos Erasmus aqui, há dez anos ou coisa que o valha, na altura, o curso ainda se chamava Informática de Gestão e tínhamos uns alunos na Suécia, na Finlândia... Nós, às vezes entrávamos em contacto com eles... Eles ficavam espantadíssimos.

- Então como é que isso está?
- Aqui só temos duas horas de aulas por semana ... aqui é um paraíso. Isto era à chegada. Passado um mês:
- Estou exausto. Meu Deus, isto aqui é muito difícil. Aqui um tipo não para.. Saudades daí. Aí é que se estava bem.

A exigência é muito maior. Eu também fiz Erasmus na Finlândia. Em Helsínquia é muito semelhante.

Quer dizer... Isto são os bons exemplos. Obviamente que não são as 20 h por semana que o tipo tem de aulas. Ou seja, levando isso a sério, eu acho que as duas horas de contacto por semana chegam para por o pessoal a trabalhar. Obviamente o que está em jogo depois são os mecanismos de acompanhamento desse trabalho que exigem uma proximidade. Quando um tipo tem uma turma de 120 alunos se falar meia hora por semana com eles são 60 horas. É impossível.

E nada disso é contabilizado.

Como é que eu vou falar? Meia hora não dá para nada e sessenta horas não faço mais nada na vida. Literalmente. As sessenta horas são doze horas por dia... Percebe-se que alguma coisa tem que mudar.

Em Helsínquia tive cadeiras que duravam literalmente uma semana inteira. Durante o semestre várias cadeiras só duravam uma semana de trabalho intensivo das nove às cinco e depois dessa semana havia tutorias se eu precisasse de esclarecer dúvidas ou de acompanhar os meus trabalhos. Mas a organização lá é trimestral e aqui é semestral. Funciona de forma diferente. Lá os semestres duram três meses. Tanto o de Inverno como o de Verão. É uma organização curricular mais flexível e privilegia muito o trabalho autónomo do aluno.

Mas simultaneamente é mais acompanhado. As turmas eram pequeninas?

As turmas eram pequeníssimas. Não teriam mais do que vinte pessoas.

Quando eu tiver uma turma de vinte estou no céu.. Repare há aqui um salto. Quando tiver uma turma em que um tipo conhece o nome das pessoas de cor, conhece a cara e sabe quando está a mandar um email. Tem uma proximidade de acompanhamento, sabe qual é dificuldade, de que é que o tipo está a fugir ... Conseguem-se fazer uma relação de ensino que é completamente diferente do que é ter uma turma de setenta, oitenta. Um tipo sabe o nome e conhece a cara de uns quatro ou cinco graxistas ou dos mais irreverentes. O resto santa paciência são uma massa amorfa. Uma pessoa deixa de saber que é aquela pessoa com aquela característica. É um dos alunos que está ali e portanto nada destas coisas faz sentido.

Claro. Há pouco o professor falou das suas funções de promoção das práticas enquanto vice-reitor.

Eu fui pró-reitor até Outubro.

Quando lhe escrevi pensei que ainda era pró-reitor.

Eu avisei-o. Disse-lhe que já não era. Não quero falar de mim porque já não sou. Mas fui pró-reitor para estas questões das tecnologias educativas aqui e nesse papel fui responsável pelo SAPE – Serviço de Apoio à aprendizagem e assumi a gestão das unidades responsáveis pelas tecnologias educativas aqui na casa. e as decisões associadas à plataforma, foram tomadas no meu mandato.

Isto para lhe perguntar se acha que têm mais sucesso iniciativas ou projectos que se desenvolvam organicamente em diferentes unidades da universidade ou se tem mais sucesso uma estratégia verticalizada?

Depende do que entender por sucesso.

Em termos de consolidação e de permanência de práticas.

É assim... aqueles que nascem espontaneamente ou organicamente obviamente têm vantagem. É que nascem muito amarrados a entusiasmos a decisões e portanto a compromissos locais e com mais facilidade de florescer. A escola de Direito aqui do *[name of informant's institution omitted]* teve uma iniciativa que andou muito à frente. Logo a de Direito que é uma gente meio esquisita, mas tem essa vantagem. É pela vontade popular e democrática e portanto arranjam sempre as coisas de uma forma mais entusiástica.. Mas depois tem os seus custos de diversidade, de translinearidade, de desarticulação com os outros sistemas organizacionais, com o seu registo académico, com as pautas... enfim, têm esse problema todos não é? Eu tenho para mim que a boa estratégia, modéstia à parte foi aquela que a gente perseguiu na Universidade: a coabitação dos dois. Ou seja, a nossa estratégia e política que lhe estava associada foi: a instituição alimenta, faz serviço e liga os seus serviços apenas a uma plataforma que mantém oficialmente. Portanto, o serviço de helpdesk , o serviço de tutoria, a formação sistematizada, a formação dos departamentos, os operadores, os cursos para geração de conteúdos, a manutenção técnica dos servidores

para as plataformas, a ligação ao registo académico, o dossier... portanto,, tudo o que é formal foi com uma plataforma. Escolhemos o black board mas nunca fizemos perseguição a quem tivesse outras vias, outras experiências, basicamente o Moodle ou outras ferramentas. Nunca se fez nenhuma perseguição. Houve sempre essa coabitação. Sendo certo que a integração de uma só com valor acrescentado associado, ou seja, lanço ali as notas, tenho ali o dossier... as pessoas vão abandonando uma plataforma em detrimento da outra. Se por algum motivo se quiserem manter fieis à outra que é diferente, tudo bem.. Eu acho que isso funciona. Permite a prática oficial de regime e a oferta de produtos em escala. A equipa tinha pacotes de formação e os departamentos pediam cursos, por exemplo de dez horas, o curso A, o curso B, o curso C... portanto, tudo aquilo estava operacionalizado, montado e com economias de escala em termos do próprio apoio. Gente formada, especializada em dar apoio por telefone, por meio, por contacto, etc. ... para dar apoio à utilização das ferramentas. Há todos esses benefícios da plataforma e da sua gestão centralizada, digamos assim.

E do ponto de vista da integração pedagógica? Havia um guião pedagógico institucional, transversal a todas as unidades?

Pedagógico? Não, havia cursos e há cursos vocacionados para desenvolvimento de conteúdos e, portanto, preocupações pedagógicas na utilização da plataforma. Mas, sob essa perspectiva de acções de formação: o que são boas práticas, não um guião oficial. Ou seja, não há um repositório de conteúdos da Universidade normalizado, isso não existe. Não se chegou aí. Não que não se devesse ou pudesse, mas não se chegou aí.

Falámos muito da falta de existência de uma estrutura que incentive mais aqueles que ainda resistem a migrar para este tipo de soluções pode elaborar um bocadinho mais acerca da sua percepção como académico. Quais são os factores que determinam essa capacidade de migrar para este tipo de soluções na perspectiva do professor? Acha que existem bloqueios de confiança e a que nível?

Vamos lá ver... eu acho que há um efeito que é importante que é o efeito da vergonha não è, do ser diferente. Isto é, se todos aderem, se todos sabem é vergonhoso eu não aderir, é vergonhoso eu não saber, ficar para trás. Isso tem muita importância...

Na identidade do académico?

Sim, sim. Quer dizer, se toda a gente tem ... quer ao nível dos colegas, quer ao nível da sua exposição perante os alunos. Se os alunos estão a ter seis disciplinas, cinco disciplinas funcionam com o Blackboard e a dele não funciona, os tipos chateiam-no. Toda a gente diz: os conteúdos, os textos, nem que seja só isso, estão na plataforma da disciplina. Chego lá com umas fotocópias... tomem lá para tirar para estudar, ninguém me quer pegar naquilo não é... ou seja, o efeito do antigo delegado, os mecanismos de fotocópias de pagamento, hoje em dia do que eu me apercebo já não estão montados, já não existem. E, portanto, começa a ser desconfortável eu ser o único que dá fotocópias. Sou ridículo para aqueles alunos. É como há uns anos o tipo que não tinha os acetatos à mão ou não sabia trabalhar com o projector vídeo ou outra coisa qualquer. Um tipo está à margem do *mainstream*. Esse é um efeito importante e mobilizador. Claro que depois há aqueles que nem têm telemóvel. Ainda há os que dizem: - Não, não, eu não utilizo porque acham que é diferenciador não utilizar. É legítimo. É uma forma de esconderem competências. Esse efeito é muito importante. A diferenciação e o ser desvalorizado por ser não utilizador. Mais efeitos... eu não valorizo os efeitos, as preocupações de confiança e de segurança.

E de maior visibilidade e de disponibilidade dos conteúdos que o professor produz?

A terceiros para a turma? Talvez.. Vamos ver...Ainda dentro da confiança, acho que hoje em dia, as pessoas habituaram-se a confiar razoavelmente nestes meios. Basta ver que recentemente se fazem transacções bancárias, compras... esses fantasmas da falta de segurança vão-se desvanecendo, portanto não vejo que isso seja um factor de bloqueio. O medo de outros acederem aos conteúdos, pelo contrário, a divulgação. Ou seja, se a gente precisasse de uma classificação eu punha ali no Moodle. Também depende bastante das plataformas que cada instituição utiliza. No caso do *[name of informant's institution*

omitted], os conteúdos estão vedados a terceiros. Só as pessoas que são ou alunos ou docentes registados nas disciplinas acedem aos seus conteúdos. A gente sabe, outras plataformas noutras universidades são abertas. Aqui são fechadas e, portanto essa questão da visibilidade não se põe. Não ganho nada por ter a minha disciplina lá. Só os meus alunos é que a vêem.

E a autoria dos conteúdos? Fica com o professor?

Há uma regulamentação em relação a isso. Os direitos de autor são sempre do autor, mas depois há uns direitos de propriedade por parte da instituição... mas isso também não está... como nunca foi explorado comercialmente ou para publicidade eu diria que está numa zona cinzenta. Acho que ninguém consegue responder. Olhe eu quero actualizar aquele curso quanto é que me custa? Ninguém consegue saber isso.

Eu só coloquei a questão... se algum professor que tendo produzido o conteúdo ou colocado esses conteúdos numa plataforma se a partir de alguma altura ele não se tornará descartável... se se confirmar esta tendência quase universal da empresarialização das universidades.

Não sinto... isso até pode acontecer em níveis de disciplinas ou unidades que sejam devidamente desenvolvidos. Conteúdos quase de auto-aprendizagem em que o papel do professor seja marginal na animação desses conteúdos. Mas como isso é claramente uma minoria em relação às não sei quantas mil disciplinas e unidades que a gente aqui tem isso não é um sentimento generalizado. Ou seja, ninguém se sente ameaçado sob o processo de uma plataforma sentir-se descartável a partir daí.

Continuam a dar protecção...

Infelizmente ainda não estamos aí. E digo infelizmente porque era um sinal de maturidade de utilização das coisas.

Acha que sim?

Acho. No dia em que o professor for descartável... não é que seja descartável. Eu acho que nunca vai ser descartável mas em que uma pessoa se sinta ameaçada com essa possibilidade é sinal que alcançou um nível de maturidade nos seus conteúdos, um nível de auto-utilização, auto-aprendizagem muito avançado. E, portanto, fez um bom trabalho. Mas estamos muito longe disso. Aqui na Universidade em não sei quantas mil unidades curriculares haverá uma ou duas que estão a esse nível.

Mas pode haver, no futuro esse nível de desenvolvimento se se desenvolver consideravelmente essa possibilidade.

Pode, mas duvido que encontre alguém que ponha isso, numa lista que peça para fazer a qualquer docente que ponha isso nas vinte primeiras. As pessoas estão conscientes dessa... sabem que pode haver essa situação e essa preocupação, mas está, claramente, na cauda das preocupações.

Bem, no meu estudo interessa-me muito perceber como é que os professores adoptam uma racionalidade custo/ benefício quando decidem apropriar e-learning ou não. E isto tem muito a ver com o capital social e com a percepção de valor do e-learning. Eu referi no email que tinha conduzido em Abril e Maio do ano passado. E a confiança, não no sentido da segurança do sistema emergiu como uma das categorias principais dessa análise preliminar. Confiança no sentido de que o referencial de custos de aprendizagem, de investimento de tempo e de desinvestimento na carreira que um grande investimento no e-learning pode proporcionar faz aumentar os custos da adopção dessa tecnologia. E a mim interessa-me muito perceber que factores engrossam essa percepção de risco ou de custo e o que é que pode usado institucionalmente como facilitador de processos de

confiança ou seja o que é que pode inverter estas questões relacionadas com carreira, com o tempo e outros que venham a emergir no decorrer destas entrevistas que eu tenho feito com os professores. Alguns, curiosamente, têm referido a questão de ownership dos conteúdos. Daí eu ter perguntado isso. E até de potencial controle da instituição sobre os conteúdos. Mas isso, se calhar são reflexões quase *a la limite*.

Custo para o indivíduo ou para a instituição?

Custo para o indivíduo.

Bem, isso depende muito, digamos assim, do conteúdo em si e do contexto em que ele é criado. Se for um docente que vive a leccionar uma matéria que tem claramente um valor de mercado, muito próximo do mercado, muito actual, muito apetecível e que faça actividade em quatro ou cinco actividades privadas estarei muito preocupado com esse conteúdo porque sou vendedor desse conteúdo, vivo da rentabilização dessas capelas. Por num sítio acessível é uma ameaça para o meu negócio. Noutra extremo, se for um indivíduo de um contexto, de uma universidade ou de uma área que é claramente um nicho, absolutamente espartilhado que interessa a dez pessoas no mundo aparece a décima primeira pessoa a preocupar-se com isso e portanto mais visibilidade que exista sobre isso é melhor. É difícil generalizar essas preocupações, mas percebe-se que possa haver quer num nível, quer noutra e em situações intermédias.

Eu, por vezes, interrogo-me a nível de cada departamento ou de cada unidade como é que pode funcionar um alinhamento entre esse departamento ou unidade e uma possível estratégia de e-learning. Que órgãos é que possam ser responsáveis por esse alinhamento estratégico? Acha que, por exemplo as comissões científicas e pedagógicas têm algum tipo de papel no alinhamento estratégico entre estas duas dimensões?

Têm ou deviam ter?

Se têm ou se deveriam ter.

A minha prática nesta casa onde vivo é que não têm tido. Se me pergunta que deveriam ter eu acho que sim. Não sei se ao nível dos órgãos pedagógicos se a outro nível qualquer. O que me parece, aliás é o que se está a passar neste momento aqui na Universidade e que eu tenho subscrito e estou a apoiar a actual reitoria nesse sentido... o que me parece é assim: uma instituição como uma universidade vive muito espartilhada pelas suas escolas, institutos ou faculdades. Dentro desses espartilhos, dessas unidades as realidades também são muito diferentes. Existem os departamentos a velocidades e com interesses muito diferenciados. Isto faz com que uma universidade seja uma instituição de uma heterogeneidade tremenda. Em muitas outras coisas, mas também neste espaço de utilização das tecnologias no suporte do ensino/ aprendizagem. Basicamente, eu vejo que possa haver aqui duas grandes estratégias. É assim: isto vai á força; vai de cima para baixo. Nós não conseguimos impor e dizer: a partir de amanhã, os nossos quatrocentos cursos passam a ser... não é possível, não é viável. A situação passa por escolher um curso aqui, ali outro.... ou vem de cima para baixo e se escolhe e depois há aqui um esforço tremendo, arranjam-se aqui uns curiosos e eu não acredito nesta estratégia. Acredito, antes, que deveria haver uma estrutura transversal a toda a universidade que se preocupasse . Outra coisa: os departamentos, as escolas estão muito habituados a seguir os seus canais os seus mercados para a venda, digamos assim, dos seus produtos formativos . Alguns interceptam várias unidades, mas pronto, têm estabelecidos os seus mecanismos, os seus mercados e tudo isso. Escolher um produto... este agora vai ser feito à distância... é o que se tem feito de alguma forma, mas não creio que isto funcione. Isto é uma estratégia que vai fazer com que muitos outros estejamos daqui a vinte anos à espera que as coisas ainda aconteçam. É um tempo exagerado. O que me parece é que deveria haver uma estrutura que coabitasse com a realidade que existe e que dissesse para os públicos novos, para os públicos zero que canalizassem e que arranjassem as condições para que os produtos formativos que existem continuassem a existir, mas passassem, pudessem passar também de uma forma incremental permitir os alunos à distância.

Pressão de fora para dentro. É isso que está a

É. No sentido que eu possa dizer: ok eu tenho aqui o mestrado em sistemas de informação a funcionar e a disciplina de Seminário ou de Sistemas de Informação ou de outra coisa qualquer não só funciona com os alunos que estão dentro daquela sala, mas com os alunos daquela sala e um conjunto de alunos em Timor, Moçambique, sei lá...

Porque há mercado para isso.

Há mercado. Há claramente mercado. Nós temos o nosso mestrado em sistemas de informação em Timor, a partir de Setembro funciona também no Brasil. Obviamente nós temos aqui oferta formativa local maioritariamente em Português e obviamente temos um mercado da Língua Portuguesa muito atractivo em contraponto ao mercado da formação em Língua Inglesa com uma concorrência tremenda. Há uma vantagem competitiva que Portugal tem em relação a outros produtores de informação que é esta diferenciação pela Língua para o mercado de Língua Portuguesa, naturalmente.

Não o fazemos ainda de forma tão mercantilista quantos os ingleses...

Pois, ainda não. A gente tem esta visão romântica de portugueses, do papel que tivemos no Mundo e, portanto, fazemos isto pela causa pública. Bom, mas isto para dizer que há aqui estruturas e há aqui formas de dinamizar e de fazer acontecer e depois o tal efeito de cópia, efeito de vergonha, fazer com que isto seja um ponto de alastramento tremendo destas preocupações. Eu sigo muito mais uma estratégia desta natureza. Bom, isto respondendo à pergunta coisas destas têm que aparecer amarradas aos órgãos de gestão de alto nível. Alguém tem que decidir que arranja contexto para que isto funcione. Se não for assim, amarrado ao poder o que aparece são cogumelos, iniciativas de um departamento, de um coordenador... enquanto há entusiasmo aquilo vive, mas depois morre.

E dificilmente contamina.

E dificilmente contamina. Pronto, vive de entusiasmos e de fogachos locais e aquilo que são a instituição dos mecanismos e depois não só a instituição; a promoção e a procura e também forças de incentivo em relação a esses mecanismos, se não forem instituídos depois pura e simplesmente não ocorrem.

Considerar a integração de tecnologias educativas como um capítulo específico da avaliação do desempenho dos professores. Acha que isso seria benéfico?

Ser um factor de avaliação dos docentes?

Ser um critério de ponderação...

O domínio das tecnologias educativas? O domínio das tecnologias de *per si* não. Mas pronto, aqui no meu departamento já é uma prática instituída há muitos anos e valorizada de alguma forma a disponibilização (em tempos idos) a existência de um site para a disciplina ou a disponibilização dos conteúdos para ferramentas: blackboard ou Moodle.

A um nível mais superficial de utilização

Ao nível da utilização já é um factor valorizado. A competência específica em tecnologias educativas não tem sido. Pergunta se devia ser ou não... á mesma coisa que perguntar aqui há uns tempos se um tipo sabia utilizar o rectoprojector, se deveria ser formado nisso, se não.

A minha questão é que enquanto não houver essa percepção se calhar os paradigmas vão continuar a ser os mesmos. Vai usar-se o retroprojector ou o projector de vídeo como se usava o quadro e o giz.

Eu percebo a pergunta. Não sei é a resposta. Já reparou que na carreira docente a avaliação pedagógica é diminuta. Existiam dantes as provas de aptidão pedagógica. Acabaram os

mestrados, acabou-se pura e simplesmente com isso com a banalização dos mestrados. Os doutoramentos não consideram esse aspecto. Depois aparece na progressão da carreira a categoria de professor associado o desenho de uma disciplina, depois na agregação uma aula sem alunos, para o júri, o que é uma coisa estranhíssima. Portanto, não é claramente, não está no percurso, mas é coerente com essa desvalorização dos processos pedagógicos o desempenho pedagógico e o domínio das tecnologias educativas não tem sido objecto de avaliação. Poderia ser. Acho que poderia ser porque boa parte da nossa profissão docente é isso mesmo. É a docência do domínio do ensino/ aprendizagem. Poderia haver uma preocupação formal e uma avaliação formal das tecnologias educativas.

Poderia ser feito entre pares. Acha que isso poderia ser um factor de...

Provavelmente. Provavelmente até com mais sucesso do que ... sabe que os professores são muito zelosos da sua autonomia e das suas vergonhas também, não è? Não gostam de se expor. E, portanto, vejo com muita dificuldade que a gente aceitasse que os nossos colegas das tecnologias educativas viessem para aqui pregar.

Se viessem, por exemplo, observar aulas?

Aqui no departamento, nós já tivemos essa prática. Nós tivemos aqui um director de departamento, o professor Altamiro, era muito preocupado com essas questões. Nós fomos... aqui no departamento foi o primeiro nas provas de aptidão pedagógica a levar a questão de aptidão pedagógica. E estamos a falar em oitenta e oito, trinta e tantos anos, levar aquilo muito a sério ou seja nós liamos autores de pedagogia, andávamos à volta das taxonomias de aprendizagem para preparar e argumentar a forma como se ensinava nessas tais provas.

Isso já não existe. Provas de aptidão pedagógica.

Não, Acabaram com os mestrados. Isso era uma coisa que havia antes dos mestrados. Ou seja, uma pessoa para passar para assistente tinha que ser ou fazer mestrado ou fazer essas tais provas de aptidão pedagógica. Era o correspondente a uma dissertação. Era a capacidade científica, mas simultaneamente as tais provas de aptidão pedagógica.

É interessante esse passo.

No início só tinha que mostrar competência para organizar pedagogicamente uma disciplina. Agora, a base da contratação é meramente científica. Agora, é com doutoramento. Dantes, havia essa dualidade. À medida que se foram criando mestrados em Portugal, foi perdendo esse peso. Acho que legalmente ainda é possível. Não conheço aqui... Acho que a última, aqui na escola de engenharia deve ter sido para aí há oito anos, dez anos.

Por exemplo numa prova de agregação como seria recebido, talvez pelo júri, um professor que preparasse uma aula ou em que fizesse recurso a blended learning.

Obviamente depende do júri. Depende muito do júri.

Seria como um ET ou seria bem recebido?

Do lado da comunidade de um departamento como este seria bem recebido. Por um júri que fosse convidado por gente que a gente acredita e valoriza, também certamente que sim. Não quer dizer que não encontrasse um júri que considerasse isso inaceitável. Mas isso já seria difícil.

Eu só perguntei porque há um momento de exposição importante para o professor. E eu não sei se o que está verdadeiramente em causa na agregação se é competência científica que me parece que há uma grande insistência na capacidade de o professor revelar

capacidade ou conhecimento científico ou se o que está verdadeiramente em causa são as tais competências pedagógicas e de saber dar uma aula.

Nem uma nem outra. Eu ainda não sou agregado. Estou tratando disso agora. Não sei responder em pleno. O que eu acho é que o único julgamento que ali está a ser feito é de maturidade. Não vejo que seja a competência científica. Vejo que seja o domínio das problemáticas, o conhecimento da área, capacidade argumentativa e a confiança do domínio da área. Ao nível da lição, vejo que seja a capacidade de expor um assunto mais do que a capacidade da exploração pedagógica.

Na sua percepção, faltam momentos em que essa capacidade pedagógica seja explorada e, se calhar, escrutinada.

Sim... por mim, posso dizer que aqui no departamento nós... por acaso nos últimos dois ou três anos nem dou por isso. É como lhe digo... os tempos começam a amargar, as preocupações fragilizam sempre o lado pedagógico. Nós tivemos aqui durante vários anos práticas de avaliação cruzada dos docentes e, portanto, a gente convidava colegas de forma cruzada para assistir á minha aula e a seguir á aula dos outros. Enfim... os mecanismos de comentário e de crítica, neste departamento em particular, apesar de estarmos muito afastados da pedagogia chegámos a ter algumas práticas louváveis de avaliação.

Para terminar, professor, queria perguntar-lhe que recomendações é que daria a um professor que está prestes a fazer a transição de um paradigma essencialmente presencial, transmissivo e expositivo para uma integração das tecnologias na sua prática?

Ser pragmático. Eu acho que é a questão fundamental. A ferramenta é poderosa, as consequências podem ser fantásticas ou desastrosas. Se forem bem utilizadas, são certamente fantásticas e mal utilizadas são absolutamente desastrosas. E portanto, é preciso ter cuidado. E o cuidado quer dizer perceber bem e ser pragmático. Perceber o domínio da tecnologia que tem, a turma que tem, o contexto: se é o contexto adequado para a utilização daquilo e de fazer aquilo que quer fazer. Se o tiver quiser utilizar o chat e

tiver uma turma de oitenta tipos é impossível. Quer dizer o que é que um tipo vai fazer num chat com oitenta? Ou se tem um fórum em que tem que estar quatro horas por dia a dar resposta se não consegue e deixa atrasar? Se não tem essas horas cria expectativa, cria o entusiasmo e depois cria um flop. Quando digo ser pragmático, é perceber que o instrumento é poderoso e portanto perigoso também. E é para ser bem utilizado. Porque se é para fazer asneira, mais vale estar quieto não é? Porque há, depois o custo da expectativa e da oportunidade que se perde por uma má experiência. É mais difícil depois trazer as pessoas. Claro, numa turma se aquilo corre tudo mal no semestre seguinte as pessoas para esse pedido já não dão.

E como professor já lhe aconteceu confrontar-se ou encontrar professores desiludidos e desapontados com más experiências de utilização de e-learning? Que estejam completamente desencantados?

Não. Mas certamente porque isso não é coisa que um tipo ande a dizer pelos corredores. Também não é uma coisa que um tipo pergunte. Correu bem e tal? Mas, de certeza que há.. E não sou mais porque sou previdente. Eu como tenho consciência do perigo tento não criar falsas expectativas. Isto é para divulgar materiais é para a gente comunicar, se houver mais alguma coisa, logo se vê. Mas lembro-me de situação de trabalho. Aqui a nossa ferramenta tem uma ferramenta de anti plágio - *Turn it in*. Lembro-me da aceitação de trabalhos por aí e da confusão que aquilo gerou. Havia os que não conseguiam submeter, os que se atrasavam, o prazo que não se cumpre, ou seja se não houver uma fluência normal no âmbito daquilo com as atitudes normais e provavelmente as manhas porque a gente está em Portugal somos portugueses . É dia cinco à meia noite, não no dia seguinte às 9 da manhã. Se o tipo põe a ferramenta a aceitar à meia noite, à meia noite aquilo fecha. Também há uma cultura de facilíssimo que essas ferramentas também alteram. Lembro-me dalguma confusão e minha incapacidade de gerir esse processo ou da incapacidade dos alunos se sincronizarem com o rigor num processo desses na submissão de um trabalho a partir daí. A partir daí previdentemente uso a submissão por email. Há o contra de não ficarem na biblioteca da disciplina. É uma ferramenta poderosa, induz mudanças, profundas e as mudanças têm custos dentro da instituição que diria não está, como diria,

consciencializada, não está capacitada para absorver os custos dessa mudança. E isso é uma situação dramática.

Q47 Full Interview Transcript

Eu se calhar começava por pedir ao professor que me falasse da sua experiência de e-learning e sobre como incorpora e integra o e-learning nas suas práticas de ensino.

Bem, o e-learning nós aqui não temos feito grande coisa em termos de investigação. Tivemos um projecto com um grupo de empresas que entretanto se fundiram, mas que tem grande potencial. E então como se fundiram, agora temos um problema legal e jurídico e o projecto começará daqui a um mês ou dois. É um projecto de investigação na área dos serious games, aliar a metodologia de e-learning com jogos. Em termos da utilização de sistemas de e-learning o que temos há já alguns anos na universidade é o Blackboard, mas as pessoas não gostam daquilo. A adesão é fraca, porque aquilo é um repositório de conteúdos e não propriamente um sistema que permita de uma forma inteligível ensinar o que quer que seja. É apenas um espaço designado e atribuído a cada docente e a cada cadeira. As pessoas põe lá os materiais e os alunos vão lá buscar. Mas não há propriamente uma estrutura organizada de e-learning. Estamos agora a pensar nisso e no lançamento de um curso de e-learning. Mas convencer o professores a adoptar isto não é fácil, e por várias razões, começando logo pela dualidade da carreira, com os professores confrontados com as aulas e a investigação. A carga horária é muito superior à de outras universidades. Somos uma universidade nova e em termos de recursos não nos podemos comparar a outras universidades mais estabelecidas. Aqui no departamento temos 22 docentes, somos responsáveis por 3 cursos e quase que fazemos omeletes sem ovos. Mas já temos uma experiência de e-learning no passado, de cooperação com uma universidade de Cabo Verde. Eles não vêm cá e fazem o nosso mestrado. Mas é tudo de uma forma muito acelerada e com pouco tempo e pouco espaço de reflexão.

Há pouco falou da fraca adesão ao Blackboard e ao e-learning. Além da sobrecarga de aula que existe, que outros factores considera serem dissuasores de adopção?

O que se passa propriamente não é uma rejeição. Noto é que há opiniões que não são convidativas. As pessoas não se sentem à vontade. Também não me parece que seja por terem medo de perder o emprego. Porque estou convencido de que acontecerá o contrário e que para haver e-learning, serão necessários sim mais recursos. Como lhe disse estou em vias de montar um curso em e-learning e estou a ver que preciso de mais docentes, de mais recursos. Não propriamente máquinas ou material porque não precisamos e felizmente temos bom equipamento. Mas o que nos falta são recursos humanos. Para montar um curso de e-learning preciso de pessoas inteiramente dedicadas àquilo.

Então o grau de exigência é superior ao presencial?

A diferença substancial relativamente ao presencial é que é preciso preparar tudo de forma muito mais sistematizada. Vejo pela minha experiência de quando estou a dar aulas. Sim, é verdade que preparo materiais, mas se estou a dar aquilo friamente não chega. Tenho que fazer muito mais. Eu uso muito da minha experiência nas aulas. Às vezes os alunos perguntam-me coisas e eu uso a minha experiência pessoal, que me ajuda a resolver ou a explicar. Em e-learning temos que dar mais informação e seleccionar exactamente as palavras que usamos para significar determinada coisa, porque o aluno é mais autónomo na sua aprendizagem. Não estaremos sempre ao seu lado a expor o pensamento, é ao aluno que cabe individualmente ou numa tarefa em cooperação, atingir uma linha de pensamento que integre conceitos, aprendizagens e objectivos. Isso exige muito mais. Temos de ser mais objectivos. E se for bem feito, acredito que o e-learning vai dar uma grande visibilidade à universidade. Se não for bem feito, nem sequer vale a pena tentar. Porque vai dar uma imagem errada. Mas eu acho que é o futuro e eu já digo isto há muito tempo. O problema será sempre a falta de recursos humanos. Eu se não arranjar um projecto de investigação interno e contratar bolseiros, não consigo desenvolver o meu projecto de e-learning. Mas o e-learning é claramente a grande mudança, vai alterar muita coisa na forma como se ensina

e na forma como as universidades se vão reorganizar. Não quer dizer que vá haver uma redução de pessoal, pelo contrário vai haver é um aumento de pessoal.

Qual é o ganho então?

O ganho é... Bem, em termos de custos adicionais, de manter uma estrutura desta natureza, não precisaremos de tantos edifícios, tanta área alocada para aulas. Mais autonomia do alunos, mas mais acompanhamento tutorial também. Em termos de aulas vai encolher. O sistema que opera presentemente em Portugal não funciona e é anacrónico. Temos uma massificação total do ensino superior, mas não temos recursos humanos suficientes. Quando eu digo às pessoas que tenho 22 docentes para dezenas de cadeira, cerca de 100, toda a gente se ri na minha cara. E eu cheguei a ter 200 cadeiras por semestre. O que fazemos agora para racionalizar é cortar ramos e aumentar a disponibilidade de cadeiras opcionais. Os alunos escolhem, para não haver conversa nem problemas de escolha sobre que cadeiras deixam de funcionar. Portanto, estou a fazer a reforma dos cursos todos neste momento, o que não é fácil. O e-learning vai ser muito importante. Mas como é que eu vou convencer as pessoas nesta universidade por exemplo? 80% dos alunos que cá estão são deslocados e vêm basicamente da zona Centro e Norte. São alunos que têm que se deslocar e que vão gastar dinheiro aos pais. Se nós quisermos internacionalizar a universidade, o e-learning pode ser a grande oportunidade, sobretudo no universo lusófono, que está completamente sub-aproveitado. Não conseguimos tirar partido disso. Pelo contrário, os ingleses sabem muito bem tirar partido disso. Enquanto país pequeno, temos sido também pequenos nas ideias. O e-learning poder uma oportunidade para captação de mercados, tanto internos como internacionais. Temos é de conseguir fazer um e-learning bem feito e com qualidade científica.

Que estrutura de apoio aos docentes é que é necessária para esse desenvolvimento, porque implica uma grande especialização de funções...

O docente aqui dá mais aulas do que devia, ainda se existe que faça investigação e que publique em revistas ISI e conferências indexadas. Exige-se muito, mas não se dão condições

para que as pessoas possam desenvolver um trabalho de qualidade. E este departamento é um dos melhores da universidade em termos da qualidade dos papers. Exige-se muito e exigir mais algo não é muito prático.

E acha que é isso que faz os professores não confiarem tanto no desenvolvimento de uma solução de e-learning?

Eu acho que tem a ver muito com a orientação também. Estou a lembrar-me e não foi há muito tempo que falei com um professor que critica o Blackboard. Bom, eu também não uso. Usei aquilo uma vez e não gostei. No centro de informática, que é o centro que coordena a rede e os sistemas de informação da universidade, aconteceu-lhe um problema e parte da sua informação desapareceu. Era preciso que os alunos entregassem qualquer coisa numa deadline e os trabalhos desapareceram e com elas informação sobre a data de entrega. E depois usaram isso para justificar as suas falhas na entrega dos trabalhos. E isto jamais pode acontecer. Não há desculpa e é uma falha muito grave. Se o sistema não funcionar em condições, as pessoas não aderem de facto.

Essa foi uma das razões pelas quais deixou de usar o Blackboard? Não lhe oferece segurança?

Eu simplesmente não gostei do Blackboard. Em termos de interface é horrível e não consegue analisar a informação em condições. É tudo mau. Para uma pessoa que conhece os princípios fundamentais do design de interfaces, aquilo é o exemplo de tudo o que não pode ser. Pode ser muito bom em termos de engenharia ou de tecnologia, mas em termos de interface é das piores coisas que eu já vi, das piores coisas mesmo.

E em termos pedagógicos tem alguma utilidade?

Eu usei apenas como repositório de conteúdos. Pode ter mais potencialidades do que isso, mas eu não analisei em pormenor e desinteressei-me muito rapidamente. Porque a questão

do interface, que é tão importante, desmotivou-me. Podemos ter um grande produto, mas se a interface não for intuitiva, se não for fácil de usar, os professores e os alunos desistem muito facilmente. Eu desisti logo. E quase toda a gente daqui desistiu. Apesar de ser obrigatório. Era mesmo obrigatório. É à boa maneira portuguesa. Não vale a pena decretar ou estabelecer exigências. As pessoas não ligam e marimbam-se para isso. Em Portugal é assim. No Reino Unido não será tanto assim e na Alemanha este tipo de desobediência não seria sequer tolerável. Em Portugal há uma mentalidade própria. Nós dizemos sempre que cumprimos na medida do possível e as pessoas só cumprem se acharem que é razoável aquilo que se está a pedir. Um caso típico é a lei anti-tabaco. Já havia tantas leis e espalhou-se a ideia de que não havia ainda uma lei. Nunca funcionaram. Preparou-se um clima. Havia leis de anos anteriores que simplesmente não eram cumpridas. A lei actual é apenas um acrescento àquilo que já existia. Alterou pouca coisa. Como anteriormente havia lei, mas não se criou pedagogia nenhuma, as pessoas não se preocuparam. Algumas nem sabiam mesmo que a lei existia. Mas a certa altura a comunidade foi preparada.

Traçando aqui um paralelo, que tipo de pedagogia é que poderia existir para por os professores a usar o e-learning?

Impor não resulta. A gente vai dizer coisas às pessoas e elas não aderem. Observar exemplos e perceberem que resulta funcionará melhor. No caso da lei anti-tabaco foi mesmo isso que aconteceu. As pessoas foram preparadas e foram-lhes dados exemplos. As pessoas sabiam que no estrangeiro era assim. Houve ali muita pedagogia antes até que as pessoas se convenceram. Com os cintos de segurança passou-se a mesma coisa. Portanto em Portugal não vale a pena fazer leis se as pessoas não entenderem. Há outro caso. Agora exigiram-nos internamente que os sumários e que todo o processo académico das disciplinas tenham assinatura digital e seja tudo informatizado. A ideia é de facto muito boa, mas obrigam uma pessoa a fazer uma coisa destas assim, por despacho. Não funciona. Porquê? Há uma lei, a nova lei – o estatuto da carreira docente – que introduz uma série de alterações. Outro aspecto é o cartão do cidadão, que em Portugal pode congrega todos os dados de uma pessoa e que pode levar a assinatura digital. Mas não é obrigatório. Mas

internamente, na universidade, exigiu-se que toda a gente teria que fazer assinatura digital. Quando a lei não o contempla.

O cartão de cidadão é obrigatório. Vou ter que forçosamente ter um cartão do cidadão. Mas não sou obrigado a ter assinatura digital. Eu só ofereço se quiser. Mas aqui na universidade é obrigatório, é uma imposição. É óbvio que aqui as pessoas se rebelaram logo. Não faz sentido. É um exemplo, apenas. Mas serve para mostrar que as instituições devem perceber que as pessoas têm que ser preparadas, tem que haver uma certa pedagogia. Com o Blackboard é a mesma coisa. Quando eu comecei a usá-lo pensei que aquilo é horrível. Isto tem impacto nos alunos. Para aquilo, eu prefiro tem uma página para cada disciplina. É mais fácil. Os alunos sabem aceder.

Acha que muita gente não adere por receio de deixar lá os seus próprios conteúdos?

Isso é verdade nalguns casos. Não no meu, que até deixo conteúdos disponíveis a todos, porque entendo que é dever da universidade fazer algum trabalho comunitário. Isto é, informação e conhecimento têm de estar disponíveis. E está a acontecer muito, por exemplo, a nível mundial, eu tenho notado isso, muitos professores universitários estão a pôr login e password para aceder aos conteúdos. E eu acho que isso é a pior coisa que pode acontecer numa universidade. Porque a universidade é um espaço de universalidade e de diversidade de pensamento. E da disponibilidade para ensinar e transmitir conhecimento. Esta é uma função primordial da universidade e quando se veda o acesso ao conhecimento restringindo o acesso através de passwords, não se está a cumprir esse papel. Quem faz isso não sabe sequer o que é uma universidade.

Mas isso na óptica do académico não convida a dissociar aquilo que é a produção de um académico enquanto indivíduo e o produto que acaba universalizado mas disperso?

Essa é uma das partes mais importantes. Eu tenho recebido, sobretudo do Brasil, de investigadores e colegas professores, mensagens a perguntar se podem usar os meus materiais. Eu tenho-os na net. Qual é o que problema? Se eu quisessem que usassem, não

os punha lá. Já recebi mesmo queixas de alunos portugueses de outras universidades a informarem que outros professores estão a usar os meus materiais. Bem, o conhecimento está disponível, é a função do professor.

Por exemplo, se os conteúdos estiverem numa plataforma, o professor pode abdicar da sua autoria e transferi-la a favor da instituição? Isso não fragiliza a posição do professor?

Eu acho que a função de um professor é transmitir o conhecimento. Claro que se quero fazer valer os meus direitos, protejo a minha produção com copyrights. Não quero controlar o mundo nem controlar os outros. Se acha que tem uma novidade para contar ao mundo, publique um livro. Publicar hoje nunca foi tão fácil. As editoras estão sempre à procura de pessoas que sejam capazes de fazê-lo com sucesso.

Eu entendo. Por outro lado, o professor disse que usa os seus próprios websites. Acredita que mais gente o faça para evitar a vigilância ou controlo dos conteúdos por parte da instituição?

Isso é uma tentativa de reter de alguma maneira o conhecimento. Obter, estabelecer e controlar um histórico do conhecimento da instituição. Acho que a universidade tem todo o direito de o fazer. Mas isso não quer dizer que controle o docente. Mas o facto de um professor ter os seus conteúdos numa plataforma não pode ser impeditivo de poder publicar os seus livros ou outra coisa qualquer. Tem que haver um equilíbrio.

O equilíbrio pode advir de alguma forma de contratualização?

Isso não é fácil. Quando falamos de patentes, as coisas são diferentes. Produção geral de conhecimento, a questão ainda é mais fraca. Qual é o valor comercial ou industrial? A universidade permite que tenhamos patentes. Acho francamente que a autoria de conteúdos é uma coisa individual e que ninguém a pode tirar ao professor. Faz parte, ninguém pode tirar. Mas o conhecimento também tem um contexto. Os conteúdos eu

posso reescrevê-los. Há conteúdos mais relevantes do que outros. Os meus conteúdos são muito clássicos. Não é propriamente a matéria com a qual se faz investigação. Para essa estão reservados os cursos de topo. Aí há um acompanhamento mais tutorial do que aulas clássicas. Quanto menos lei e regras houver, melhor. Tem que haver alguma praxis. Eu acho que os professores universitários são um bocado selvagens. No sentido em que tem um sentido de liberdade muito próprio e uma independência muito própria que choca facilmente com outros colegas e também com a instituição. Se não quisermos ter problemas com a universidade relativamente ao e-learning e aos conteúdos, deve promover-se o docente. Deve dizer-se que os conteúdos são sempre do docente. Se for a universidade a tomar conta de tudo, é perigoso. Vai contra o princípio fundamental da universidade, que é ser um espaço de liberdade. É que há uma corrente de pensamento que hoje entende a universidade como uma empresa. É a coisa mais perigosa que existe. Ainda esta semana me encontrei com empresários num parque de ciência e tecnologia que me questionavam porque é que não se transformava a universidade numa empresa. E eu respondi directamente. Vamos supor que a universidade passava a ser uma empresa. Isso significava que o core business era a atribuição de graus? A que custo? Tem que haver limites e restrições. A universidade não pode ser uma empresa... o aluno não pode pagar para ter o seu grau, isto não é uma tasca. Esta universidade falha é muito nos processos de gestão. Não é em termos de visão estratégica, que eu acho boa. É mesmo gestão. Isto nasceu de certa maneira e depois foram adquiridos hábitos que degeneraram em ciclos viciosos. E depois há pessoas que aqui trabalham que não são muito qualificadas. Mesmo ao nível do secretariado. É aqui é uma raridade encontrar um licenciado a trabalhar nos serviços académicos. Por outro lado acho que os portugueses são pessoas mais comprometidas com as instituições para as quais trabalham. E é por isso que isto funciona, senão não funcionava de todo. Eu olho para os serviços académicos e eu sinto claramente que é sempre feito tudo o possível para tentar resolver um problema.

Acha que seriam bem-vinda modificações à estrutura das carreiras académicas no sentido de creditar mais aquilo que é investimento pedagógico?

As pessoas que aqui estão e os professores universitários em geral não têm uma formação pedagógica. É tudo muito na base da intuição e da percepção pessoal acerca do que é correcto. Eu acho que a pedagogia pode ajudar, mas não é a solução para os problemas. Quando eu tenho um mau professor nas mãos, é muito difícil ele melhorar substancialmente. Por outro lado, um bom professor, que teve experiência pedagógica, nunca vai deixar de o ser. Há também coisas intuitivas e que fazem parte da personalidade do docente. Agora, a pedagogia pode ajudar ao nível dos meios e dos sistemas de e-learning. Eu vejo isso, até tenho experiência e conhecimento dos princípios de pedagogia. Sei o que se deve e o que não se deve fazer. Mas isso em si não é nada. Se eu não consigo transmitir o conhecimento de uma forma que os alunos retenham, a utilidade é nula. A essência é muito comunicação interpessoal. Há aqui excelentes cientistas que não conseguem transmitir. A pedagogia aí não pode ajudar nada. Zero. Agora, onde é que pode ajudar a pedagogia? Isso está a ser feito na universidade neste momento e temos um gabinete próprio para isso. Que é por exemplo: vamos definir os objectivos da cadeira. E aqui já há um problema dos diabos! Porque ninguém diz ao docente de que objectivos é que estamos a falar. São os objectivos da cadeira ou os objectivos de aprendizagem? De que e que estamos a falar? É preciso explicar as pessoas. Há objectivos da cadeira, uma meta e há objectivos finais de aprendizagem. Ninguém explica isso. Se correr este corredor de gabinetes e perguntar a cada docente que aqui está quais são os objectivos de aprendizagem das suas cadeiras, se 10% responderem acertadamente, já vai ser uma sorte. Eles não têm conhecimento. E isto é uma questão de organização. Quando a gente estabelece uma cadeira, quais são as teorias, o que e que foi feito, e o que e o modelo actual. Mas qual é o modelo actual? Ensino centrado no aluno? Mas o que é isso? O professor não sabe o que é isso. Centrado é no professor. O professor é que sabe.

Então a forma de combater esse problema seria com guidelines. Mas vindas de onde? Da Universidade ou da tutela?

É assim, isso é o que está a ser feito cá. Com a tutela. Eu acho e que as universidades foram apanhadas na curva do tempo. Deixaram-se ultrapassar pelos acontecimentos. Não deram importância às teorias pedagógicas, esqueceram a importância da leccionação. Foram

apanhadas por isso. Eu acho que as teorias pedagógicas são mesmo muito importantes, porque obrigam os professores a repensar os processos, a base, a infra-estrutura organizacional que se oferece aos alunos. É isso que é importante. Para mim é o mais importante.

Mas isso não obriga a uma reforma na estrutura de incentivos?

Mas a universidade terá sempre uma grande capacidade de estar a frente e de liderar processos. O que aconteceu foi um esquecimento de uma das suas grandes funções. Já temos departamentos de educação e de pedagogia há muitos anos, não é de agora. Esses departamentos preocuparam-se a fazer estudos, mas trabalharam para fora e não para dentro. Internamente fez-se muito pouco, conceptualmente não se definiu uma linha que faça os professores universitários conscientes da existência de uma orientação. Eles têm consciência de que há algo mal feito, mas não se sabe bem. Basta olhar para a forma como se estruturam as cadeiras. Não é fácil encontrar uma página de uma universidade que estruture de forma clara e objectiva os objectivos de uma cadeira. É tudo ambiguo. Nada é claro ou verdadeiramente bem feito. Mas não é um exercício fácil.

Eu já oigo há muito tempo que é necessário uma pessoa sentar-se e pensar naquilo que é importante que o aluno saiba à saída de determinada cadeira. Já tenho alguma experiência disso.

Mas não haverá resistência dos professores em apropriarem a linguagem das ciências da educação?

Lembro-me de que quando eu era assistente a atitude das pessoas era de displicência. Diziam que não precisavam das ciências da educação para nada. Pedagogia era lixo (risos). Mas isto é um processo de consciencialização. Leva anos. Hoje já mais gente aceita que a pedagogia é uma ferramenta que pode ajudar bastante. Mas o professor tem sempre que ser capaz de comunicar com os alunos. É como a liderança. Ou se tem ou não se tem. Tem que fazer parte da personalidade da pessoa.

Seria favorável a uma distinção entre universidades de ensino e de investigação?

Se eu olhar para aquilo que deve ser a universidade, acho errado. Mas não é verdade, dentro da própria universidade isso já é feito. Eu estive em Oxford a fazer a minha sabática, e eles lá tem um sistema que eu sinceramente, é uma história dos diabos. É um ensino tutorial. Mas eles têm dificuldade em manter aquilo porque custa muito dinheiro. Internamente no departamento têm dois tipos de professor: os que investigam e os que ensinam. Os que investigam são os de primeira classe e são os que dão menos aulas. Os professores que ensinam, se quiserem passar para a primeira divisão têm que publicar mais, e competir. É um desespero. O novo estatuto da carreira docente em Portugal, se olharmos para os concursos de professor associado, há uma primazia ainda muito grande para a investigação. Mas há teoricamente quatro grandes áreas: ensino, investigação, administração e interacção com a comunidade (onde entram projectos com empresas, acções de contacto e divulgação). A pessoa vai ser avaliada e hoje já é obrigatório discriminar as percentagens.

Isto abre claramente a porta ao desenvolvimento do e-learning. Eu, pelo facto de estar a conceber e montar um curso em e-learning, isso dá-me logo uma pontuação muito elevada. mas só pensei nisso agora, mas é verdade.

Seria bem visto na avaliação das provas de agregação, a preparação de uma aula online?

Eu acho que a universidade é muito aberta. É verdade que os académicos são conservadores, mas consegue perceber os sinais de mudança e pensar à frente. As pessoas estão a aderir e as que não estão, começam a mentalizar-se. Não têm é oportunidade de forma equilibrada e objectiva. Não têm um sistema que lhes dê confiança. A confiança é muito importante. É um processo inter-pessoal, mas é feito com as organizações, as instituições e as infra-estruturas. Está relacionado com a fiabilidade até do sistema informático. Se não tivermos maneira de manter um sistema informático online em permanência. E preciso grande capacidade, avisos constantes a interrupções, por exemplo. É uma confiança ao nível da operacionalidade.

Mas nao há outros níveis de confiança?

O grande problema que nós temos é tempo. O e-learning rouba-nos muito tempo. O ensino tradicional mesmo rouba-nos muito tempo. Nao é razoável que um professor dedique 12 horas de aulas por semana a apenas 2 cadeiras. O tempo que ele tem de investir para preparar estas aulas é 3 ou 4 vezes superior. E isto resolve-se com mais docentes. Por exemplo, ter um docente responsável apenas por uma disciplina em cada semestre. Outra forma seria termos trimestres em vez de semestres, o que faria com que tivéssemos menos disciplinas em vez de termos 5. Teríamos assim metade do ano lectivo só para leccionação e a outra metade só para investigação. Mas isso obriga a uma mudança radical e isso e que difícil mudar. As pessoas mudam muito na base do que já existe e do que já está feito. Depois há uma grande falta de cultura informática. Este país ainda tem analfabetos! Este é um indicador chave. Olhe para os países nórdicos. Isto ainda vai levar uma geração para combater. Nós não acompanhamos a evolução informática nas sociedades humanas. Basta ir a uma escola e perguntar ao corpo docente quantos professores é que lidam com um computador e os números são aterradores. Poucos sao os que lidam com facilidade com um computador. As pessoas não estão preparadas. Nós aqui temos um gabinete que estava a tentar organizar os conteúdos. e havia acções de formação e as pessoas iam lá livremente. E ate já me perguntaram se eu nao queria forçar os docentes do meu departamento a ir lá compulsivamente. E eu disse que não queria. Eles vao livremente. Obrigar seria contraproducente. É um problema da natureza humana e da tradição inerente à profissao universitária. Uma tradição de liberdade. Se for tipo ordem, como um general nao dá. Se for livremente, mesmo com dificuldade, as pessoas vão assimilando práticas. Até 1989 os professores universitários eram soberanos. Isto quer dizer que mesmo perante uma ofensa pessoal, um professor universitário podia prender uma pessoa. Isto é fantastico. Em 1989! Era um órgão de soberania, como um juiz. Era uma personificação do poder. Havia paridade com a carreira de magistratura. O nosso actual Presidente acabou com o vínculo entre as duas carreiras. E houve greve pela primeira vez no sector para contestar. Era um poder incalculável. Ainda hoje é impensável haver um administrador a mandar num professor universitario. Quem manda é o Reitor.

Voltando à sua experiência pessoal. Além da questão do tempo, de que outras formas é que o e-learning o afectou profissionalmente?

Eu sempre vi grande potencial no e-learning. Mas quando comecei eu percebia muito pouco, mas discordava da forma como os outros professores mais velhos, os dinossauros, ensinavam. E para mim até teria sido mais fácil e mais comodo dizer que o e-learning não prestava para nada. Ganhava o mesmo. Depois quando tive de fazer a minha passagem a associado, ganhei uma sensibilidade maior aos aspectos pedagógicos. Depois tive de preparar a nova licenciatura, de acordo com curriculos internacionais e standards. Tive de ler muita documentação que mencionava ambientes de aprendizagem e métodos. Tive de perceber e de me confrontar com novas situações. Foi isso que me fez tomar contacto com modelos gerais de aprendizagem e ganhar exposição a teorias pedagógicas e a novos ambientes de aprendizagem. Foi uma aprendizagem pessoal puxada pelas necessidades. Foi um investimento compensado apenas em termos pessoais. Mas agora é mais fácil. A universidade tem um gabinete próprio agora, não dedicado exclusivamente ao e-learning, mas deidcado as questões do ensino em geral. Apoiam-se os docentes que querem ser apoiados, eles vão com ideias, mas nao é claro. Mas o importante é que as pessoas se estão a mobilizar. Depois em termos de infra-estrutura não temos problemas nenhuns. E esta nova equipa reitoral estabeleceu prémios de excelência para o ensino. Do ponto de vista político funcionam muito bem estes pequenos sinais, que manifestam que se está a premiar a iniciativa e a inovação. Estamos a premiar as pessoas, mas é uma coisa sobretudo simbólica. Apesar da importância simbólica, o mais importante e que a universidade tenha uma visão estratégica. Os reitores são eleitos e não de forma directa. Isto já foi mais democratico. Agora elegemos um Conselho Geral, que e um órgão consultivo com representantes dos docentes, alunos e funcionario e até da comunidade, empresários. Isto é para combater a ideia de que a universidade se fechava sobre ela mesma e parecia que isto era uma quinta. Esse conselho geral é que elege o Reitor, mas os candidatos expõem as suas ideias em audição pública. Na última eleição houve 4 candidatos. A pessoa que ganhou tinha a melhor visão estratégica e foi por isso que eu a apoiei. A visão estratégica é muito importante numa universidade. O e-learning faz parte neste momento da visão estratégica da universidade.

Que recomendações daria a um professor que está prestes a iniciar um ensino com forte presença online?

Não é fácil. Eu acho que uma pessoa que não tenha preparação ao nível das novas tecnologias, é um pouco difícil, embora isso não seja requisito. Uma coisa é fazer o sistema, outro e utilizá-lo. E agora as redes sociais facilitam o nível da utilização. Mas mesmo para usar um sistema é preciso saber colocar informação e saber comunicar via chat video ou texto. Mas um professor deve ter esta formação mínima. O que há em geral é medo. Uma pessoa com formação informática mínima consegue. Se a pessoa for ensinada perde o medo. Medo da tecnologia. O medo é o obstáculo principal à aprendizagem. As pessoas têm medo. As pessoas não são máquinas e sabem quais são as suas fraquezas e poucas sabem transformá-las em coisas fortes. Outra coisa interessante é ver os políticos a puxar pela ciência e isso está a acontecer em Portugal com o e-learning. Antigamente era universidade que puxava, agora são os políticos. Houve aqui uma mudança. Eles estabelecem os objectivos. Claro que são aconselhados. Mas hoje são as instituições políticas que puxam. Antigamente era a universidade que puxava. Hoje são os políticos, com os seus conselheiros. Houve aqui uma mudança de paradigma. Isso é um aspecto muito importante em Portugal.