

Exploring the construction of verifiable evidence in a technology-mediated competency assessment environment according to the experiences of accounting professionals.

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I embarked on this PhD knowing it would be tough. I was not wrong. However, having come to the end of this hugely challenging but amazing journey makes me feel that the hardship and sacrifice has been worth it.

Firstly, I thank God for giving me the strength of character and resolve to keep going until the end. I genuinely did not believe that I could do this but in doing so, my belief that with faith anything is possible is affirmed.

I thank my kind manager, Dr Roberta Bampton for fighting to support me to complete my studies. I also thank Professor Martin Samy and Dr Junjie Wu for their belief in me.

Mostly, I thank my family. My long suffering husband, Dan, who has put up with me studying for exams and assessments since our first year together as undergraduates eighteen years ago. To my wonderful daughter, 'Yuki, for whom I have made so many short term sacrifices, hopefully for long term gains. To my loving parents, Dr. Imuetinyan Ugiagbe and Mrs Claudia Ugiagbe who have kept me motivated and ensure that I maintain self- belief throughout so many periods of self -doubt.

This thesis is dedicated to all the wonderful aspiring professional accountants who have made my career to date so rewarding;

“The goal of accounting education and experience is to produce competent professional accountants capable of making a positive contribution over their lifetimes to the profession and society in which they work” (IAESB, 2008)

ABSTRACT

This thesis explores the mediating role of technologies within the initial professional development (IPD) competency assessment environment of aspiring professional accountants.

It proposes that professional competency is transient, ambiguous and complex. Professional competency is conceptualised a set of morally orienting practices, understandings and personal characteristics.

The study establishes that professional competency is currently assessed via several different specific structures and contexts. These contexts are conceptualised using Nardi & O'Day's (1999) concept of information ecology, which is mediated by assessees, assessors, evidence & technologies.

One of the specific structures within the information ecology is the 'profession context.' It is here that professional accounting operates. There are also broader corporate structures operating within which accountancy is integrated with other organisation functions. Broader still, are the social contexts in which corporations themselves operate.

Although these contexts cannot be artificially separated, the thesis proposes that professional accounting bodies should take control of the 'profession context.' It is proposed that verifiable evidence should be assessed within the profession context to "corroborate" assertions of competency made by assessees/assessors.

The mediating role of technology within the information ecology is often dynamic, emotive and sensory and moves between hermeneutic, embodiment and alterity relations. The inter-relations of technology with agents within the information ecology are often recursive, but nonetheless often involve a negotiation of power. The mediation of technology within the information ecology enables the integration of simulated and real assessment environments within which verifiable evidence can be constructed. This approach

advocates that successful accomplishment of performance is determined using responsible pedagogy principles. This means the development of critical thinking, education and self-awareness through assessment that is authentic and action based. The purpose of this approach is to develop aspiring professional accountants who embody the behaviours, attitudes, values, dispositions expected of responsible, respectful professionals who protect the public interest.

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List of Abbreviations

AAT	Association of Accounting Technicians
ACCA	Association of Chartered Certified Accountants
ATE	Authorised Training Employer
CAF	Conceptual Assessment Framework
CBA	Computer Based Assessment
CBE	Computer Based Exam
CBT	Computer Based Testing
CCAB	Consultative Committee of Accountancy Bodies
CIMA	Chartered Institute of Management Accountants
CIPFA	Chartered Institute of Public Finance and Accounting
CPD	Continuing Professional Development
ECD	Evidence Centred Design
FRC	Financial Reporting Council
HEI	Higher Education Institution
IAESB	International Education Standards Board
ICAEW	Institute of Chartered Accountants England and Wales
ICAS	Institute of Chartered Accountants Scotland
IEP	International Education Paper
IES	International Education Standard
IFAC	International Federation of Accountants
IPD	Initial Professional Development
IS	Information Systems
NVQ	National Vocation Qualification
PAB	Professional Accounting Body
PEP	Practical Experience Portfolio

PR	Participatory Research
RO	Research Objective
RQ	Research Question
WBL	Work based Learning

List of International Education Standards (IESs)

Education Standard No.	Effective from date	Name of International Education Standard
IES 1	Effective July 2014	Entry Requirements to professional accounting education programs (Revised)
IES 2	Effective July 2015	Initial Professional Development - Technical competence (Revised)
IES 3	Effective July 2015	Initial Professional Development – Professional skills (Revised)
IES 4	Effective July 2015	Initial Professional Development – Professional values (Revised)
IES 5	Effective July 2015	Initial Professional Development – Practical Experience (Revised)
IES 6	Effective July 2015	Initial Professional Development – Assessment of professional competence (Revised)

INTRODUCTION

“The overall objective of accounting education is to develop competent professional accountants” (IAESB, 2014, p.4).

An aspiring professional accountant is defined as, “an individual who has commenced a professional accounting education program as part of IPD” (IES 3, 2012). The explanatory memorandum of IES 3 (2014) defines IPD as, “the learning and development through which aspiring professional accountants first develop competence leading to performing a role as a professional accountant. IPD includes general education, professional accounting education, practical experience, and assessment.”

IPD is overseen by a global professional accounting regulatory body, International Federation of Accountants (IFAC). IFAC comprises of 173 members and associates in over 129 countries and jurisdictions, representing approximately 2.5 million accountants in public practice, education, government service, industry, and commerce. International Accounting Education Standards Board (IAESB) is an IFAC member body and responsible for issuing International Education Standards (IESs).

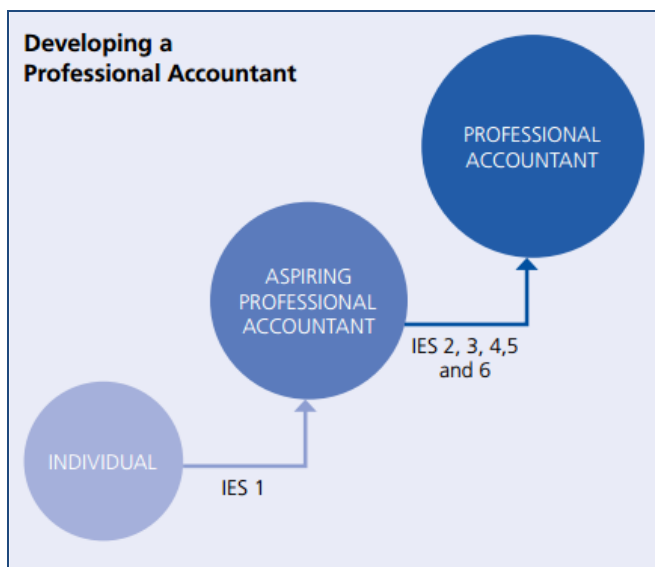


Fig.1 IES relating to IPD an aspiring professional accountant

IAESB explain that “professional competence goes beyond knowledge of principles, standards, concepts, facts, and procedures; it is the integration and application of technical competence, professional skills, and professional values, ethics, and attitudes” (2014, p.11).

Aspiring professional accountants undertake their IPD via a combination of professional education and relevant work experience. This work experience is referred to as, “practical experience” and is gained by working for an organisation via a formal training contract or through being employed in a ‘relevant role.’ Practical experience is assessed as an integral part of IPD. The successful accomplishment of both PAB exams and practical experience assessment by the aspiring professional accountant results in full membership to the respective PAB and ‘professional’ status as a qualified accountant is awarded.

To meet the continual challenges facing the global economy, the accountancy profession needs to ensure that individuals who become professional accountants achieve an agreed level of competence, which is then maintained (IAESB, 2013). Modern day accountants have to face the challenges of modern day business. However, “the problem is that many of our ideas about the role of knowledge in decision making is based on the notion that we can do the same things as we did before, and which we intend to do tomorrow’ (Furubo, 2012, p43.)

Recent changes in international accounting education evidence requirements and the ubiquity of technology means that an exploration of the interactions within the professional accounting competency environment is timely and pertinent. It is within an evidential context that judgments are made by assessors to determine whether competency has been achieved by aspiring professional accountants.

This research study focuses on practical experience evidential context, (rather than the education context). It seeks to explore professional competency assessment of aspiring professional accountants. The study will investigate whether technology enables verifiable evidence to be

constructed for the purpose of competency assessment. It is anticipated that this thesis addresses this research aim through the conducting of an exploratory, abductive research study.

Key social actors and decision makers (i.e. accounting professionals) representing all six UK PABs, involved in competency assessment of aspiring professional accountants have taken part in the study. They provide their expert opinions, perspectives & evaluation of the current competency assessment approach to provide critical evaluation. In addition, they draw on their experience to discuss how technology mediates the assessment process as well as its ongoing and future role, given new evidential requirements of international accounting education.

Importantly, in reflecting on these issues, it is the very social actors impacted by these issues who are encouraged to provide solutions to these issues. In doing so, consideration is given to answering the specific research questions cited in Chapter 1.5 and achieving the over-arching research aim.

1.1 Background

In April 2003, a combined approach to competency assessment in professional accounting that integrated professional education and work in International Education Practice Statement (IEPS) 2 was formally introduced into competency assessment of aspiring professional accountants.

Post-2003 PABs require aspiring professional accountants to gain appropriate training and practical experience prior to admission to membership. Accordingly, “the period of training and practical experience needs to be structured to give trainees an opportunity to observe the application of professional values, ethics and attitudes in the work situation” (IES 4, 2003, para. 23).

In November 2012 IAESB issued a revision to IES 6 which takes effect on 1st July 2015. The revised IES 6 stipulates, “IFAC member bodies shall base the assessment of the professional competence of aspiring professional accountants on verifiable evidence.” (pg.5)

Verifiable evidence is defined by IES 6 as, “evidence that is objective, capable of being proven, and stored in written or electronic form.” (pg.9) IES 6, Para A.21 states, “Basing the assessment of professional competence on verifiable evidence may satisfy the needs of third parties who oversee or regulate an IFAC member body. It will also increase the confidence of stakeholders that aspiring professional accountants have achieved the appropriate level of professional competence by the end of IPD.”

1.2 Rationale

Research studies in other disciplines such as those conducted by Franklin and Melville (2013) in nursing or indeed in accounting such as Boritz and Carnaghan (2003) suggests that materials should verify that an aspiring professional accountant has achieved an appropriate level of professional competence in order to perform a role as a professional accountant.

Evidentiary materials comprise of PAB exams (and/or HEI PAB exemptions) and practical experience records. Practical experience is assessed in the workplace and based on work based activities/tasks set by the PAB. Nowadays, the assessment of performance of these tasks is typically evidenced using electronic materials issued by PABs or evidentiary materials within the requirements of the PAB.

Evidentiary materials are usually an electronic form in which completion of tasks and performance as self-reported by the aspiring professional accountant. This is verified by a workplace mentor (ACCA have changed mentor to supervisor in Feb 2016) on the basis that they have observed the performance of the aspiring professional accountant. The workplace mentor then “signs off” practical experience evidentiary materials to verify the performance objective relating to practical experience has been achieved. The person nominated as workplace mentor needs to be professionally qualified. If they are not, their sign offs must be validated by a professionally qualified accountant. Workplace mentors from all PABs (with the exception of AAT and CIMA) are currently

not required to undergo any form of training before taking up their practical experience supervisor role.

Theorists such as McClelland (1998), Messick, (1989), McGaghie, (1991), suggest evidentiary materials presented by aspiring professional accountants to PABs, do not ‘corroborate’ assertions of competency of the aspiring professional accountant. At a broad level of analysis, they suggest that this relates to “issues regarding whether consistent educational measurement makes sense in an inconsistent arena of professional practice.” (McGaghie, 1991, p.7).

A review of IAESB meeting notes and agendas discussing updates to IES 2-6 (effective 1 July 2015) suggests that key assessment decisions makers i.e. IAESB representatives seek to address issues associated with competency assessment. This has led to the new, updated IES 6, effective July 2015.

The principles underpinning IES 6 are an integral part of the phenomenon to be explored in the study. That is, the notion of verifiable evidence. More explicitly, the study seeks to determine whether or not the construction of verifiable evidence for competency assessment can indeed address some of these issues cited and the mediating role that technology has in it. Technology theory explains that technology mediates our everyday lifeworld. It therefore seems sensible to presume that technology mediates events such as assessment that takes place in the every-day lifeworld of accounting professionals.

Given recent changes (as a result of IES 6 update) to the assessment environment, a collective sociological understanding of what competency and verifiable evidence actually means, as well as the mediating role that technology is understood to have in this activity is to be explored.

Importantly, the research is conducted by understanding and interpreting the experiences of accounting professionals who interact within the competency assessment environment. It is within this environment that third party judgments are made in relation to the competency assessment

decisions made by assessors (see Fig.2 for explanation of different parties within the IPD competency assessment environment)

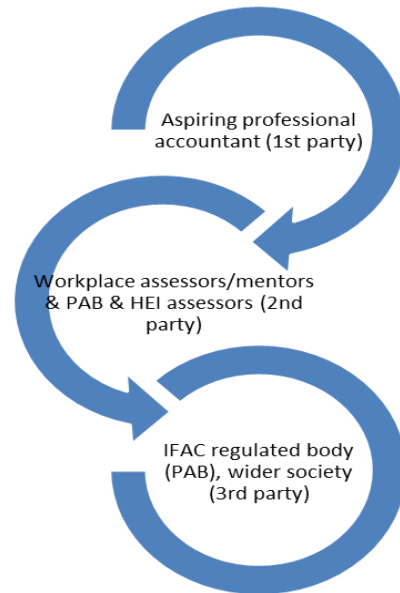


Fig 2. Three parties involved in competency assessment of an aspiring professional accountant on membership into a PAB.

As an explanation, background and rationale for the study is provided, I now move on to explicitly state my research assumptions.

1.3 Personal interest

Carr-Saunders and Wilson (1933) make impassioned reference to description of professional associations i.e. PABs, as taking upon themselves “functions relating to the competence and honour of their members” (p.303).

I am a Fellow of a PAB and worked as a workplace mentor prior to my current role in accounting education. I am an active participant of the study and do not seek to emancipate myself from the study. I hold certain beliefs grounded in my own experiences as a professional accountant, former workplace mentor and professional accounting educationalist. Although these beliefs shape both the nature of the study and the general approach in conducting the research study, I do not believe

that the methodology or analysis employed to answer the research questions posed by the study is any less rigorous.

It is intended that the study will contribute to the promotion of knowledge that is congruent with and advances competency assessment in professional accounting. However, “the assessment of professional competency is difficult. The best we can do is clarify the difficulties inherent in evaluating professional competence and perhaps, suggest ways to minimise the impact of these difficulties.” (Kane, 1992, p.164)

1.4 Significance of study

The study is significant for several reasons. Ultimately, to use technology effectively for any purpose, it is important to understand the emotions, values and beliefs placed by those using it, as well as understanding the function and capability of the technology itself.

Since 2012, technology is being used increasingly in IPD assessment by PABs, with the ongoing introduction of CBT, CBE and CBA in professional education assessment. Technology has been used by PABs since 2003 for aspiring professional accountants to create, record, store and retrieve evidentiary materials for practical experience assessment. Reports such as the Mercer Report (2010), “Generation Y, Realising the potential,” evaluate changes to work practices in the accounting profession and critical talent challenges for organisations. The report explains work practice changes in the profession are being accelerated by ever-changing technologies.

The ubiquity of technology, coupled with increased use in the profession, means that social actors involved and responsible for the development of aspiring professional accountants must have an understanding of the mediating role of technology. If the purpose of accounting education is to develop competent accountants, in preparing aspiring professional accountants as “*work ready*,” technology must be an integral part of IPD.

Exploring the mediating role of technology in this specific assessment context, allows for accounting professionals to better develop assessment strategies which leverage the capabilities and potentiality of technology to enhance professional learning, development and assessment.

As such, this study seeks to provide a critical evaluation of the mediation of technologies within practical experience (rather than education based) domain of IPD competency assessment environment. The new knowledge on technology mediation generated by the study is used to frame “generalisable” observations by accounting professionals into a model based on empirical observations from the study and theory from the literature.

The conceptual model, based on empirical observations and conceptual underpinning provides a valid, practical composition of concepts. A technology-mediated assessment model could be used by policy makers and assessors to facilitate a combined approach to competency assessment that incorporates the requirements of IES6 and that is mediated by technology.

The study comes at a time when technology is being used increasingly in the profession, with PABs using technology increasingly to assess the competency of aspiring professional accountants.

1.5 Aims and Objectives of Research

Research Aim

The overarching aim of the thesis is to explore professional competency of aspiring professional accountants and investigate whether technology enables verifiable evidence to be constructed for the purpose of competency assessment.

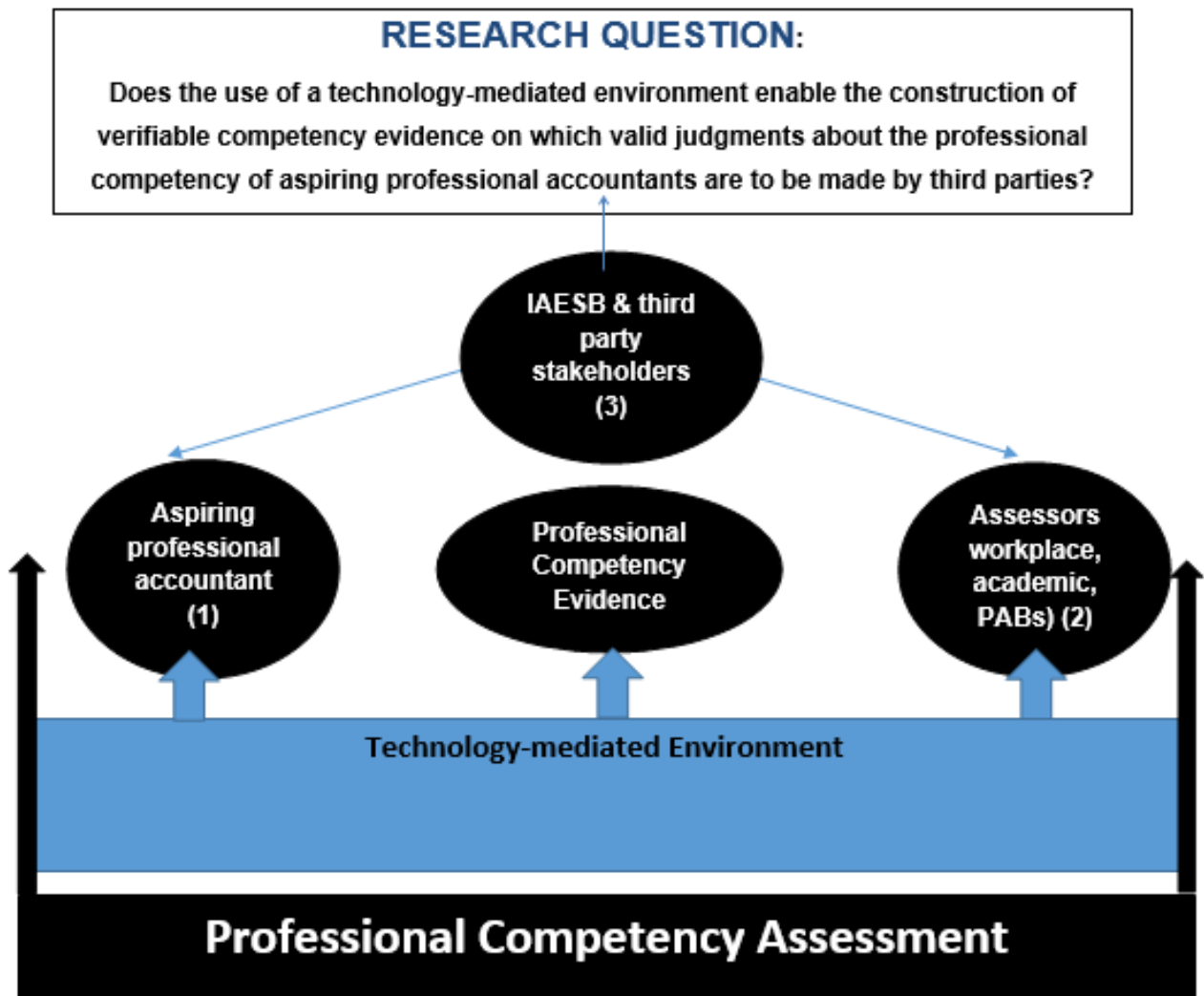


Fig. 3. Conceptual framework of the research study

Research Sub-Questions (RQs)

1. Are the evidentiary materials submitted for assessment by aspiring professional accountants considered as fit for the purpose of professional competency assessment by assessors?
2. What are the issues associated with multiple actors making judgments about the professional competency of aspiring professional accountants?
3. What is the role of technology in mediating the professional competency assessment process?
4. What are the issues associated with using technology for the construction verifiable evidence?

These questions will be investigated through qualitative, interview-based exploration of the experiences of competency assessment through the lens of different accounting professionals. Accounting professionals include assesseees and assessors involved in the competency assessment of aspiring professional accountants within a specific work based competency assessment environment; the IPD practical assessment environment. Exploration of the construction of verifiable evidence within the technology-mediated competency assessment environment also includes analysis and evaluation of documentary materials and literature in the areas of professional competency assessment and technology theory.

Research Objectives (RO's)

1. To design a technology-mediated environment in which verifiable evidence for competency assessment is constructed.
2. To enable opportunities for multiple actors to make valid and reliable judgements about the professional competency of aspiring professional accountants based on competency evidence created in a technology- mediated environment.
3. To determine whether the emergent conceptual model of technology-mediated professional competency assessment is perceived to enable valid judgments of achievement of professional competency of aspiring professional accountants by third parties based on verifiable evidence.

1.6 Structure of the Thesis

The remaining chapters are organised in the following way;

Chapter 2 - Literature Review

The purpose of the literature review is to provide a theoretical and conceptual underpinning to inform the rationale, design and evaluation of the research study undertaken to investigate the

research question. A review of existing literature on competency assessment in the accounting profession and its limitations is undertaken. It is here that the research gap supporting the need for the study I have undertaken is identified.

The literature review aims to be a critical and in depth evaluation of existing research in the area of competency assessment and technology theory. It aims to provide a context and synopsis of the research phenomenon; the construction of verifiable evidence for assessment of professional accounting competency in a technology-mediated environment. The literature review provides the theoretical underpinning of the theoretical framework that is developed from the literature review, as well as the rationale for the study itself.

The conclusion of the literature review is an initial theoretical framework of competency assessment (without technology) based on existing practice. However, due to the abductive approach to the study, (where literature is revisited following iterative analysis of the data), technology theories and principles of verifiable evidence are also included in the literature review. Technology and verifiable evidence are introduced into the (re-framed) theoretical framework following initial empirical data analysis at the end of Chapter four.

Chapter 3 – Research Methodology

Saunders et al (2009) research onion, is used as framework to explain each layer of the research study and the ontological and epistemological assumptions that underpin the design and methodology of the study. Existing studies in the area of information systems, professional competency and assessment are referred to in justifying an abductive, qualitative, case-based design as the optimal approach to answering the research questions. Steps one and two of Braun and Clarke (2006) thematic data analysis; becoming familiar with the data and initial coding analysis are introduced in this chapter. This initial coding frame is dynamic and changes as the data and literature is analysed iteratively and is developed further in Chapter four.

Previous research studies in these areas are also referred to in justifying semi-structured interviews as a data collection method in order to address the research aim most effectively. Issues regarding generalisability are addressed and defended. Ethical considerations of the research project are also addressed.

Chapter 4 – Data Analysis, Technology-mediated theoretical framework and conceptual assessment model.

Chapter four describes how the data collected by employing the research design, has been analysed. A systematic six step thematic data analysis process advocated by Braun and Clarke (2006) is used to demonstrate how themes and theory is developed from the data collected and analysed. Steps three (Data analysis) onwards are referred to in this chapter.

A rationale (supported by the use of an existing interpretivist qualitative study) for using hand coding and analysis rather than computer based analysis is provided. The sequential process of thematic data analysis (Braun and Clarke, 2006) provides a clear picture of the development of codes to categories, relational meanings provided within the categories and the development of themes and theory.

It is the conceptualisation of theoretical inferences (i.e. supposition of ideas based on general principles specific to a particular context), developed from the interview data that is used to re-frame the professional competency assessment theoretical framework. This was developed from the literature review (see Chapter 2.5.7) and is reframed to include technology and verifiable evidence. The re-framing is based on observations in semi-structured, in-depth interviews by accounting professionals in relation to construction of verifiable evidence for the purpose of practical experience assessment and the mediating roles of technology in an IPD assessment context.

This framework is developed through collegiate and collaborative participation with accounting professionals involved in competency assessment of aspiring professional accountants. This reframed theoretical framework provides the theoretical underpinning to the conceptual model to be developed, which is a key research objective (RO3) of the thesis.

Agar (2003) explains that what models can do is clarify an idea, one that a researcher has concluded is central and key in understanding a particular phenomenon, an idea that is 'post-ethnographic'. He goes on to state, 'the most important thing to translate when going from research to model are the human concepts that make the biggest difference in explaining what happens in the population.... Then make sure the (computer) versions of the concepts interact like the human concepts did in the ethnographic explanation.' (s.5.3). Therefore, one of the challenges in developing the model is ensuring that it is reflective of ideas and concepts that have been interpreted through rigorous analysis of data collected and analysed.

The following three empirical chapters seek to provide the thematic and relational analysis within the ethnographic data underpinning the conceptual model presented in Chapter seven.

Chapter 5 – Preliminary results for Research questions 1 & 2

This is the first of three empirical data chapters that seek to address the sub-research questions posed. It presents deeper analysis of relational meanings of the observed phenomenon in a way that addresses RQs 1 & 2.

Firstly, it seeks to explain the issues (e.g. validity, trustworthiness, competencies required for practical experience assessment and the basis on which performance is assessed i.e. judicious criteria) associated with evidentiary materials for practical experience assessment.

Secondly, the chapter explains the issues identified (i.e. non standardisation of performance requirements, plurality of standards, duplication of assessment and additional cost) associated with multiple actors making competency assessment judgments.

Finally, the chapter ends with an exploration of the differences in positioning between the two assessor groups; academic and workplace assessors, on competency assessment using Samuelowicz and Bain's (2003) orientation to assessment framework.

Chapter 6 – Preliminary results for Research questions 3 & 4

The second of the three empirical chapters is focused on an exploration of the mediating role of technology, with reference to associated issues with constructing verifiable evidence for the purpose of professional competency assessment (this is explored in more detail in Chapter eight following interviews with IAESB representatives).

Chapter six evaluates the current and potential role of technology in mediating the construction of verifiable evidence for the purpose of competency assessment. In doing so, themes including power relations, emotional and sensory responses as a result of interactions by agents with technology in the assessment environment emerge. This includes the de-skilling, dis-empowerment and disenfranchisement of social actors within the assessment environment, as a result of technology mediation. There is some inference that there are distinct differences in attitudes, values, acceptance of new technologies, affordances placed on technologies and perceived capabilities of using technology between 'Generation X' assessors and 'Generation Y' assesseees. These differences in impact on the extent to which technology mediates competency assessment in the workplace for the purpose of practical experience. There are other socio-cultural factors at individual, organisation and market/sector levels impacting on mediation of technology, discussed in the chapter.

The chapter concludes with a discussion on the future mediating role of technology within professional competency assessment of aspiring professional accountants.

Chapter 7 – Preliminary results for Research objectives 1, 2 & 3

The penultimate chapter is presented as a discussion chapter. It draws together findings presented in empirical chapters 5 & 6, to answer the over-riding research question (see Chapter 1.5). The findings are synthesised to create a conceptual model. The model is a representation of a technology-mediated environment that enables the construction of verifiable competency evidence on which valid judgments about the professional competency of aspiring professional accountants are to be made by third parties. Design of the model draws on empirical data from the interviews and literature. It adopts the four processes ECD principles (Mislevy et al 2003), identified through further review of the literature after the initial theoretical framework had been developed (See Chapter 2.5.8). The four processes model shows what happens at each stage of the assessment process and is underpinned the ECD conceptual assessment framework (CAF).

The conceptual model was referred for small scale critical review to n=3 small business employers (who employ some of the accounting professionals interviewed). These employers “approved” the model on the basis that PAB’s assumed responsibility for its operationalisation and assesses assumed responsibility for evidence construction (identification & accumulation) and submission.

The “approved” conceptual model is validated by key decision and policy makers. Thus addressing RO3.

Chapter 8 – Validation of the conceptual model; Summary of results and conclusion.

The thesis concludes with chapter eight which brings together the three empirical chapters. It refines the central propositions of the thesis, drawing in on data relating to the opinions, conjectures, views, perspectives of IAESB representatives. Additionally, issues cited by IAESB representatives with the conceptual model are discussed.

The principle contribution of the thesis to mediation theory in a practical experience assessment professional accounting context is established. A secondary contribution is to critical competency

theory in a professional accounting context. A contribution to the wider debate as to what constitutes successful accomplishment of performance of an aspiring professional accountant is also put forward.

Taken together, it is clear that socio-cultural differences between assessors and assessee impacts on the mediating role of technology in the assessment environment. In addition, are organisation and market/sector social structures, perceptions and values, impacting on not just the mediating role of technology, but also the conceptualisation of competency in the profession. Consequently, discussion in the chapter turns to the significance of context in assessing practical experience of aspiring professional accountants. Accordingly, it is clear that organisation context and control is a significant feature of practical experience assessment. These features have a direct impact on the mediating roles adopted by technology.

An important debate observed by participants is discussed in the chapter, which is, “What should the role of PABs be in assessing the competency of the aspiring professional accountant,” given “*a key responsibility of professional bodies is setting and enforcing standards of performance and conduct for members.*” (ICAEW, 2016)

Finally, chapter eight considers the temporal nature of the research study and its associated limitations. It ends with horizon scanning and implications of the study for future research.

CHAPTER 2

2.0 LITERATURE REVIEW

The literature review seeks to refer to relevant concepts, theories, principles as well as research findings which underpins the theoretical proposition; *“Technology mediates interactions between assessors, assessees and evidence within the competency assessment environment of aspiring professional accountants”*

Although the starting point of the study is this theoretical proposition, it is important for the reader to understand how this proposition is situated with existing literature. Hence, the literature review begins with an introduction to the concept of competency and its development in professional accounting over the last thirty years or so with The Guidelines on Prequalification Education and Training in 1982. It is of course important to review the development of the social construct of competency within the social context of the profession itself and this is achieved through a review of the sociology of professional accounting from the beginning of the twentieth century.

Having considered the concept of competency and development of competency frameworks in professional accounting by PABs, the chapter turns to a more focused exploration of competency assessment, how it is currently evidenced and technology mediation theory.

Literature has been used to provide an evidence base for the theoretical proposition which is the starting point of the study. It has also been used to provide underpinning to the research design and methodology.

The following sections refer to how the literature review is structured.

The concept of competence, competencies & competency; Professional competency frameworks

- 1) Definitions of competence, competencies/competency, meta-competencies

- 2) Evaluation of competence approaches
- 3) Meta-competencies
- 4) Functional Analysis
- 5) Capabilities Approach
- 6) Holistic model of competence

Theories of Professional accounting competence and the assessment environment

- 7) Current theories of professional competence – action based, understandings based, practice based
- 8) What is a professional body?
- 9) Sociology of the profession of accounting
- 10) Professional accounting competences
- 11) Dimensions of professional competency (a conceptual framework)
- 12) Evolution of professional competency in professional accounting
- 13) Professional competency frameworks

Part Three – Social construction of professional accounting competency

- 14) Social constructivism
- 15) Professional socialisation as a learning process
- 16) Constructivist, social & situated learning theories
- 17) Professional socialisation in work
- 18) The social structures changes in professional accounting work

Part Four – Assessment & Evidence of professional accounting competency

- 19) Current model of professional accounting competency
- 20) Verifiable evidence (IES 6) professional accounting competency assessment July 2015
- 21) Pedagogy of professional competency assessment

22) Human scoring (professional judgment and expertise)

Part Five – Theories of Technology

23) Mediation theory

24) Activity Theory

25) Hermeneutic Relations

26) Affordances Theory

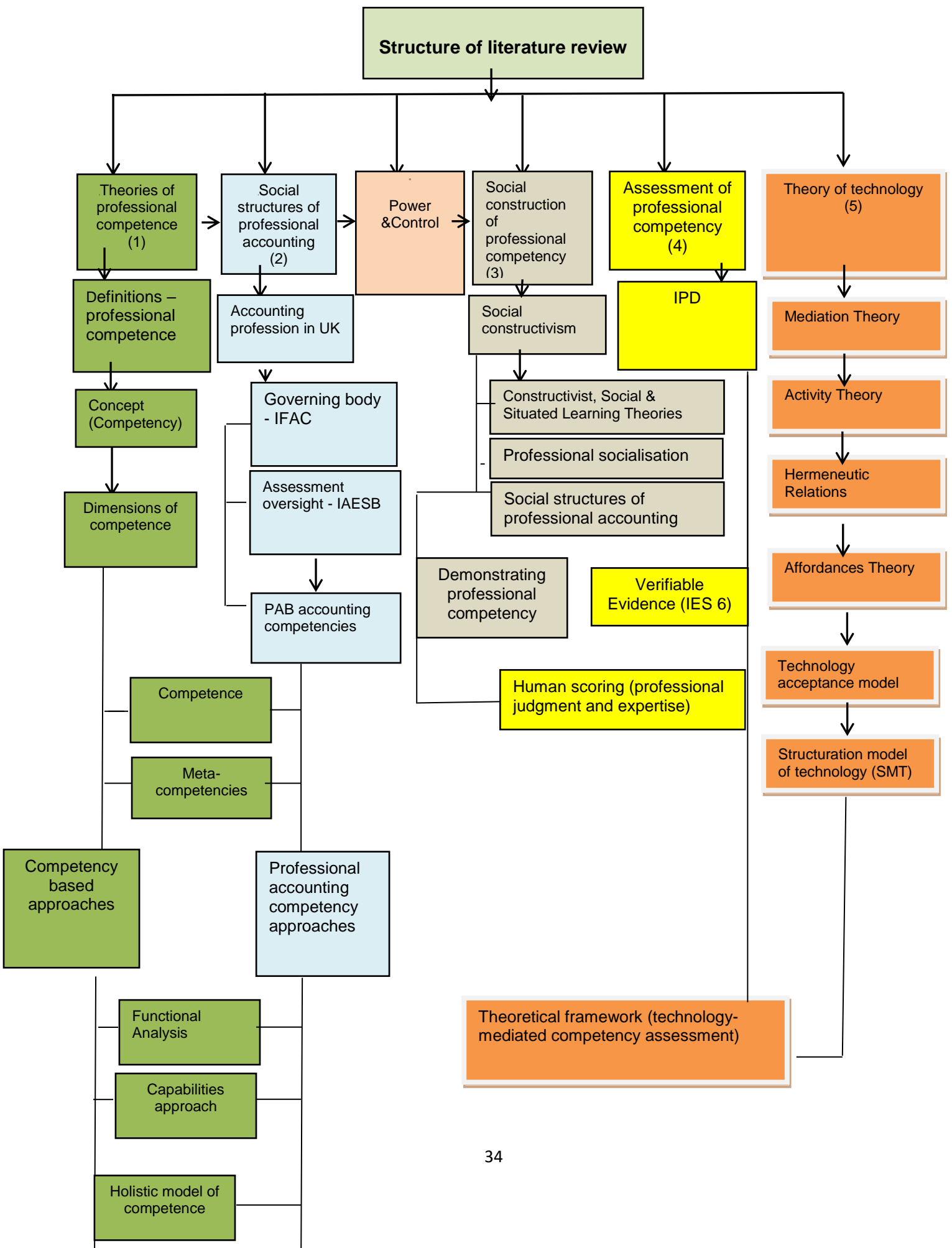
27) Technology acceptance model (TAM)

28) Structuration model of technology (SMT)

29) Initial Theoretical framework of IPD competency assessment

30) Summary and Conclusion

Chapter 2: Diagrammatic representation of Literature review



2.1 PART ONE – Introduction (Competency)

The concept of competency is complex. The terms competences, competencies, competence and competency are used interchangeably in the literature, but have different and distinct meanings.

The first section of this literature review focuses on clarifying the different terms and their contextual meaning.

2.1.1 Definitions of competence and competencies

It is important for the reader to understand the different contextual meanings of competence and competency before evaluating the specific dimensions of professional competency. In order to understand the component elements of competency, it is important for the reader to understand the difference between competence and competencies.

Muller et al (2006) explain the term competence has many definitions.

The terms competence and competencies are often used interchangeably but there is a distinction between the two terms. The term “competence” is a functional one, which specifically relates to the ability to perform a job and is outcome based.

Schon (1983) argues that professional competence is more than factual knowledge and the ability to solve problems with clear cut solutions; it is defined by the ability to manage ambiguous problems, tolerate uncertainty and make decisions with limited information (cited Epstein and Hundert 2002, p.227).

Erpenbeck and Rosentiel (2007) explain that competencies appear as outcomes of certain roles or situations and that the development of the competency outcome involves knowledge, skills, emotions, experience and values.

A competency based approach specifies performance expectations in terms of what an individual can do and accomplish rather than in terms of their knowledge and capabilities (Boritz and

Carnaghan, 2003). Birkett (2002) defines a competency as, “a successful accomplishment of performance achieved within a particular context, according to a set of judicious criteria on which the requisite capacities are based” (pg.27)

The trans-disciplinary definitions of competence (task oriented) and competencies (person-oriented) differ. Boritz and Carnaghan (2003) explain that differences are important because they ultimately affect the elements included in competency-based standards. Competency-based standards incorporate both competence and competencies. They separate the six dimensions of competencies from competences in the following way;

- 1) Competencies as skills/abilities alone versus also including personal attributes or traits
- 2) Competencies as solely outcome based versus also including knowledge
- 3) Competencies being activities/skills versus the results of activities/skills
- 4) Competencies as necessary qualities for effective performance versus superior performance
- 5) Competencies being generally holistic (high level) versus atomistic (detailed)
- 6) Competencies as observable qualities versus hidden and inferred qualities

(Boritz and Carnaghan 2003, p.10)

Thus, it is clear that whilst competences are functional and task oriented, competencies are behavioural and people-orientated. Differences in perception and thought processes may call for different basic competencies depending on the system; however, it may also be contended that the competencies needed to practice accounting should not differ between accounting systems (Shoenthal, 1989).

2.1.2 Meta-competences

Boritz and Carnaghan (2003) explain that meta-competences are higher order skills and abilities upon which competences are based. Brown and McCartney, (1994) state, “meta-competences are those abilities, skills and capacities which exist above and beyond any competence which an individual may develop, guiding and sustaining them, and from which they originate” (p.48).

Bethell -Fox (1992) explains the difference between skills and competences, by analysing the differences between competences and meta-competences. Competence is a concept relating to the ability to perform in one’s job within the context of task completion. Bethell-Fox (1992) suggests characteristics, skills or personal traits directly linked to effective job performance as meta-competences. This is a higher level, personal self-oriented approach that is directly linked to performance.

The next section analyses the two competence frameworks emergent from the taxonomic professional approaches.

2.1.3. Capabilities Method (input method)

The capabilities method (or input approach) details the characteristics of people doing the work and considers the inputs required to enable the task performance expected of a newly qualified accountant (Eraut, 1994). The approach seeks to identify and harness cognitive processes and personal qualities of the trainee accountant as opposed to confirming the ability to carry out certain tasks (Boritz and Carnaghan, 2003). The potential co-ordination of different capabilities to be assessed collectively, make capabilities more difficult to assess than functional competences.

The capabilities method outlines the characteristics of the people doing the work and considers the inputs required to enable the task performance expected of a new qualified accountant (Eraut, 1994). A purely capabilities method, looks to capture cognitive processes and personal qualities of

the trainee accountant as oppose to confirming the ability to carry out certain tasks (Gammie & Joyce, 2009). However, it is very difficult to assess thought processes, particularly co-ordination of different capabilities synonymously.

The capabilities approach outlines the characteristics of the people doing the work and considers the inputs required to enable task performance expected of a newly qualified accountant (Eraut, 1994). This approach attempts to capture the cognitive processes and personal qualities of the trainee accountant as opposed to confirming the ability to carry out certain tasks (Gammie & Joyce, 2009, p7.)

IFAC distinguishes between the input method/capability approach (where inputs include knowledge, skills and professional values) favoured by some PABs (e.g. American Institute of Certified Public Accountants, AICPA) and the outcome based/functional analysis approach favoured by other PABs (e.g. Association of Chartered Certified Accountants, ACCA)

2.1.4 Functional analysis (output method)

The functional analysis method (or output approach) is a behavioural method which describes workplace tasks (Hyland, 1994). Boritz and Carnaghan, (2003) explain that this type of approach specifies performance expectations in terms of outcomes. Functional analysis categorises the work which accountants can perform into key roles, which are progressively broken down into units and elements and tend to describe behaviours, outcomes or actions using verbs (IFAC, 2003).

Performance criteria is specified for each element, providing guidance on what behaviours are need to be demonstrated in order to be deemed competent. Eraut (1994) suggests that this approach has excessive detail. The functional analysis method is an output approach describes work tasks (Hyland, 1994) and specifies performance expectations in terms out what an individual can do, rather than in terms of an individual's knowledge or capabilities (Boritz and Carnaghan, 2003).

Critics of functional analysis posit that the reductionist process of breaking competence down into specific tasks and outcomes may distort the original competency (Houston, 1973). It is also argued that in considering observable tasks only, personal qualities and capabilities are ignored which are important aspects of professional development (Gammie & Joyce, 2003) and identity.

A further limitation of this approach is that defined tasks linked to job roles is context specific and is therefore a danger that the trainee accountant cannot adapt their skills (Gammie & Joyce, 2009) to alternative situated learning environments.

The limitations associated with both competence approaches has led to the development of a hybrid model of competence, the holistic model of competence.

2.1.5 Holistic model of competence – A competency approach

The holistic approach is a hybrid of the functional and capabilities model and is described as a model of professional competence. It incorporates an outcomes approach adopted by UK National Vocational qualifications (NVQ) and the reflective practitioner model (Schon, 1974)

The holistic approach to competence draws upon the principles underpinning the existing (functional and capabilities) models of competence. The holistic model of competence (Cheetham and Chivers, 1996) incorporates core competences as being defined in terms of outcomes, knowledge, skills, attitudes and cognitive abilities as attributes. However, the model also incorporates meta-competencies, which as higher order skills that can only be gained through experience. It is the integration of meta-competencies and reflection with other elements of the model in a professional context that means this is a professional competence model.

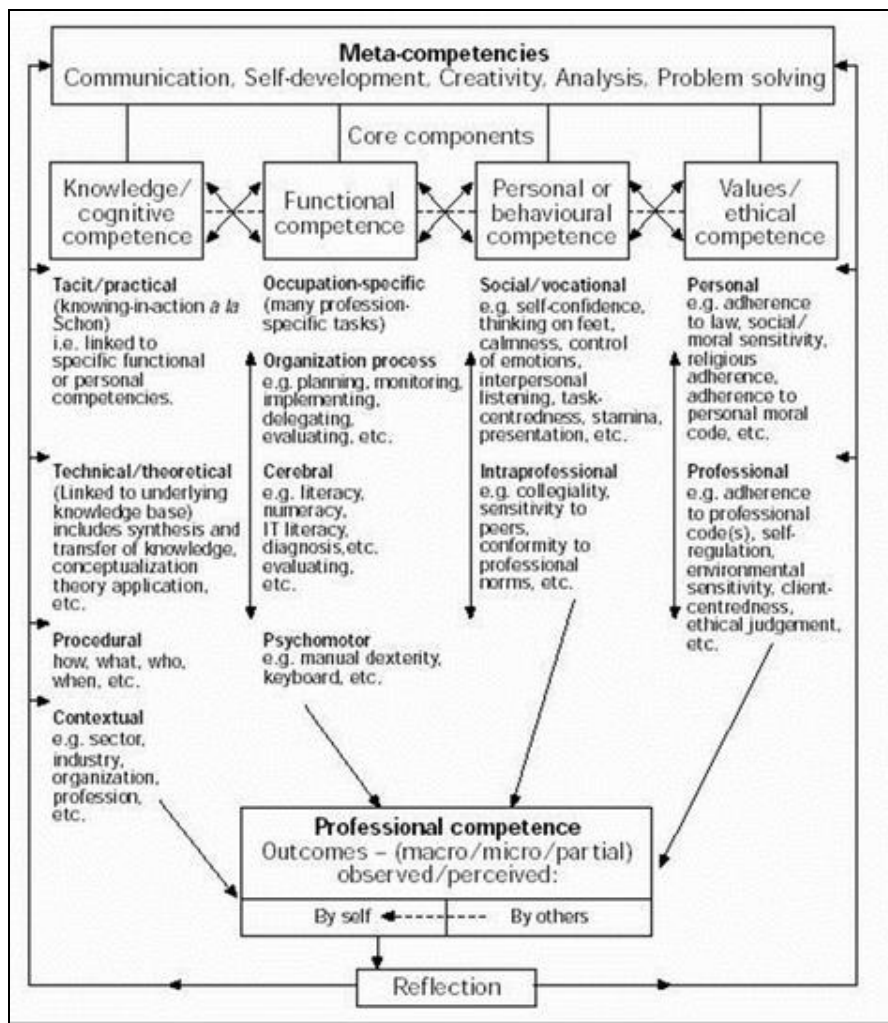


Fig. 4 Towards a holistic model of competence, Cheetham and Chivers (1996)

The model is outcomes based in which professional competence is developed through practice and evaluated through observation by others and self-reflexive evaluation. Cheetham and Chivers (2004) explain that to date, the holistic model of competence is largely untested in professional areas and that although it is intended to be holistic in its approach in practice it mainly focuses on functional competence (the ability to perform a range of job-specific tasks).

The table below summarises the 3 main approaches to competence (functional, capabilities and holistic) and its assessment;

Approach	Origins	Terminology	Focus	Definitions	Assessment	Measurement	Claimed Advantages	Criticism
Capabilities	USA McBer (1970s)	Competence Competencies	Person	Underlying attributes of practitioner associated with expert performance Broad cluster of abilities	Capability, Individual's characteristics and qualities	Competence = narrative description + 3-6 behavioural indicators	Assessment incorporates underlying knowledge, understanding and skills	Assumption that competences are transferable. Assessment difficult
Functional	UK NCVQ (1980s)	Competence Competences	Job	Performance, ability to integrate cognitive, affective and psychomotor skills	Action/behaviour/ outcome Subjective	Statement of competence= Units of competence (5-20) made up of 4-5 elements with performance criteria	Simple, objective levels of competence are distinguishable. Successful performance demonstrates underlying knowledge and understanding. No need to assess separately	Competences fragmented, non-transferable Fails to measure underlying cognitive, affective and critical thinking skills. Individualistic. Ignores context
Holistic	Australia CBT (1990's)	Competence Competencies Competency	Underlying attributes and context	Dynamic, constantly changing Brings together complex combinations of knowledge, attitudes, values and skills. Intelligent performance	Difficult in view of interacting contextual factors. Assessment of inputs. Broad evidence increases validity. Not just observation of performances. More than one perspective to reduce bias	Difficult to measure contextual factors	Incorporates context, ethics and needs for reflective practice	Difficult to assess

				in specific situations				
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Table 1. Summary of the main approaches to competence and its assessment, McMullan et al, 2003 (adapted)

This section of the literature review has clarified the concept of competence, competencies and competency. In addition, I have reviewed the two taxonomies of competence; functional and capabilities approach. The holistic approach (a hybrid of the two competence approaches in a profession context) is deemed to be a good practice professional competence assessment approach.

2.1.6 Competency in professional accounting

Johns (1995) explains that competency is realised in the performance of competence.

Hoyle and John (1995) explain competency, is a relational notion, in which an individual applies attributes (knowledge, skills, attitudes) to perform tasks in a particular work context (job performance) (p.38).

Debates on what it means to be professional within the context of professional accounting are well developed. These debates highlight the importance of the acquisition of professional identity, attitudes, values and practices (see Alvesson et al, 2008; Anderson-Gough et al 1998, 2002; Dent and Whitehead, 2002; Grey, 1998; Hodgson 2002, 2005). The development of an individual into a professional accountant involves an array of informal and formal norms that have to be both taught and learned, whether consciously or not. This process is conceptualised as professional socialisation (Anderson-Gough, Grey and Robson, 2002), where aspiring professional accountants learn to become professional accountants.

However, debates on what professional competency is and how it should be assessed are less well developed. These debates highlight that competence is associated with the performance of a work role (Hoyle and John 1995; Epstein and Hundert, 2002; Boritz and Carnaghan 2003), but that standards associated with performance are variable.

IFAC Framework for International Education Statements (IES) was first published in 1991 and states, “Ultimately, it is through practical experience that trainees will demonstrate their competence to perform the roles of professional accountants. Practical experience also refers to the on-going experience of professional accountants in the accountancy field. Practical experience is sometimes referred to as “professional experience.” (p.20).

In April 2003, a combined approach to competency assessment in professional accounting that integrated professional education and work in International Education Practice Statement (IEPS) 2 was formally introduced into competency assessment of aspiring professional accountants. IFAC (2012, Para A3) defines (competency) assessment as, “the measurement of professional competence developed through learning and development.”

IAESB (2014) states:

“ professional competence is the ability to perform a role to a defined standard. Professional competence goes beyond knowledge of principles, standards, concepts, facts, and procedures; it is the integration and application of (a) technical competence, (b) professional skills, and (c) professional values, ethics, and attitudes.” (p.17)

Hence, empirical studies suggest that competency is demonstrated through the performance of a role within an organisation. Professionalism, competency and performance are used interchangeably in the literature. There are some limitations associated with contemporary literature on competency in professional accounting.

Firstly, much of literature refers to competency using functional trait theory (see 2.1.5). There is an assumption that performing well in one’s job, means that competency has been achieved. It is proposed that this is a limitation associated with functional trait theory (see Chapter 2.1.5) and inherent assumptions regarding the alignment of corporate practices with professional skills, values, ethics and attitudes. Secondly, that it is within practical experience within a job role, that

competency is demonstrated. IES 3 (2014) is clear that practical experience may include simulated environments. Lastly, if the literature informs us that competency is demonstrated and achieved through working in a role. Therefore, measurement of competence is based on successful accomplishment in work.

Changes in work practices, business models, labour structures within organisations, means that job roles in professional accounting are changing. It follows, therefore that the basis on which competency is developed and assessed is changing too. Additionally, advances in technology is changing not only the role of 'the accountant', but competence requirements in those roles. It is therefore apparent that there is an increased need to understand what determines successful accomplishment, in what context is successful accomplishment measured and by whom is it determined?

This study seeks to address this need through an exploratory conceptualisation of competency (and the mediating role of technology in this context), through the lens of a wide range of accounting professionals.

2.2. PART TWO –Social structures within which professional accounting operates

The next section of the literature review seeks to introduce the social structures within which professional accounting competency approaches and competences are developed in the profession.

2.2.1 Evolution of social construction of professional accounting competence

International Federation of Accountants (IFAC) founded on October 7th, 1977 is the global organisation representing professional accountancy across the world. In February 1982, the IFAC Education committee issued The Guidelines on Prequalification Education and Training which listed the professional subject areas in the core of knowledge for professional accountants. The Guideline on the Core of Knowledge-Professional subjects (IFAC, August 1984) also provided clear

guidelines on subject specific topics considered as core knowledge that accountants should have.

These reports demonstrate an acknowledgement by IFAC that professional accountants need to be able to perform their role to a required standard but should also understand subject areas associated with their role in an academic context.

The UK Management Charter Initiative (MCI) movement towards competence-based education emerged in 1988 was an indication of the growing attention being paid to the concept of the competent professional. The MCI competence approach is based on the view that it is possible to define standards which have universal validity and to create tests of those standards (Brown & McCartney, 1995, p.43) The PABs whose schemes were concerned with the specification of competences that were looked at and worked on were ACCA, CIMA and CIPFA. These schemes were designed and developed and carried out largely by practitioners with input from university/HEI staff. This approach demonstrates the acknowledgement at this time that competence education required a combination of technical knowledge, skills as well as practical experience.

Competences have their origins in practice as opposed to academia (Raelin, 2000). The Recognition of Pre-certification education providers by IFAC Member Bodies Report (International Education Paper 1, 2002) explains, "To meet the challenges brought about by change, the competence of individuals becoming professional accountants must be enhanced. Since the means by which individuals obtain competence is through education and experience, the profession must aspire to increasingly higher standards in both of these areas" (pg.7)

Following the approval of IEP 1 by the International Education Committee in December 2002, IES 1-6 were published in October 2003. IFAC education committee in 2002 suggested competence may be assessed by a variety of means, including work place performance, work place simulations, written and oral tests of various types, and self-assessment. They explain that purely theoretical and knowledge based education does not meet the needs of employers. As a result, IFAC (2003) defines

competence in the context of professional accountancy training as, “being able to perform a work role to a defined standard with reference to real working environments” (pg. 12).

In 2009 the International Accounting Education Standards Board completed its revision of the Framework document which sets out the underlying concepts and principles for the IESs. The framework is not a compliance rules based framework, it is principles based. The significance of which is that PABs are able to exercise interpretation and judgment in how the principles of the standards are applied.

The Framework document, *Framework for International Education Standards for Professional Accountants* (2009), identifies general education, professional accounting education, practical experience and assessment as components of the learning and development of a professional accountant. Learning and development occurs throughout an individual’s career and ensures the development and maintenance of competence required for performing the various roles of professional accountants (IAESB, 2011).

In July 2014, IAESB issued an exposure draft summarising planned changes to the 2009 Framework for International Education Standards for Professional Accountants to be retitled, “*Framework for International Education Standards.*” This is to reflect that education standards impact on aspiring professional accountants and professional accounting education as well as professional accountants.

IAESB (2014) states, “professional competence is the ability to perform a role to a defined standard. Professional competence goes beyond knowledge of principles, standards, concepts, facts, and procedures; it is the integration and application of (a) technical competence, (b) professional skills, and (c) professional values, ethics, and attitudes.” (p.17).

IAESB 2014 exposure draft states in relation to the proposed education framework, “Learning and Development” is an on-going process of developing and maintaining professional competence throughout the career of a professional accountant.

Differences in perception and thought processes may call for different basic competencies depending on the system across the different PABs. However, it may also be contended that the competencies needed to practice accounting should not differ between accounting systems (Shoenthal, 1998). IFAC (2014) explains “each IFAC member body may define the appropriate link between the end of IPD and the point of qualification (or licensing) for its members.” (p.8). IFAC have attempted to harmonise professional competency requirements through the issuance of IES 1, 2, 3 & 6. However, the competencies required and jurisdiction of competency and its assessment is very much down to the individual PABs.

The Common Content project (2011) involving 9 PABs across the world (with UK representation from ICAEW and ICAS) seeks to harmonise entry level requirements, as well as the development and assessment of professional competence and capabilities of aspiring accountants. This has been framed into a skills framework which underpins the competency framework models employed by chartered PABs around the world.

Thus professional accounting competency models explain what aspiring accountants actually have to demonstrate in a practical experience context, in order to be deemed competent.

2.2.2 Current theories of professional competence

Mulder et al (2006) suggests that there are three broad concepts to professional competence;

- 1) Competence as a pre-requisite, such as the exam and training requirements necessary to practice within a particular occupation
- 2) Competence as an outcome, that is, performance to a set standard
- 3) Competence as a capability exercised in accomplishing specific work tasks

Entity based theories

The most prevalent theory on professional competence views is an entity based theory. It is applying scientific knowledge (Sandberg & Pinnington, 2009). Human judgments made by artificial intelligence (Dreyfus and Dreyfus, 1986) and computer modelling to assess competence affirm this theory. However, there is a large body of research that seeks to challenge the application of professional competence as applied scientific knowledge. The work by Eraut (2001), Schon (1983), Wittgenstein (1953), Giddens (1984), and Benner (1984) show that tacit knowledge (Farrar and Trorey, 2008) is central to professional competence. In such cases, human judgment based on human scoring (see Chapter 2.4.4), is more appropriate to capture nuances of experience and subjectivity of performance.

Another entity based theory of competence is incorporated by Knowledge, Skills & Attitudes (KSA-theory of competence). McClelland (1998), Boyatzis (1982) recognise that skills and attitudes as well as personal characteristics are important dimensions of professional competence. He describes professional competence as “an underlying characteristic of a person in that it may be a motive, trait, skills, aspect of one’s self-image or social role, or a body of knowledge he or she uses in accomplishing specific work tasks (p.21).

Relational perspective

Lave and Wegner (1991), Sandberg (1994), Gonczi (1997) all challenge the entity-based view of competence, suggesting that the entity based approaches neglect the contextual nature of professional competence. Instead, they propose a relational perspective in which context is clearly recognised. Sandberg & Pinnington (2009) posit that “advocates of the relational perspective argue that the entity-based perspectives overlook central aspects of what constitutes competence by treating person and work context as two separate entities” (p.1141). The relational perspective acknowledges the importance of theoretical and tacit knowledge.

There are three dominant approaches to the relational perspective of competence are;

- 1) Action based
- 2) Understandings based
- 3) Practice based

Action based

Action based approaches are advocated by theorists such as Schon (1983, 1987), Cook and Brown (1999) and Hackett (2001). They suggest that competence is rooted in action. Schon (1983) proposes that professionals learn through and within practice ('knowing in action') through reframing and resolving day to day problems and reflecting on these actions. Part of the process of knowledge in action is developing an awareness of tacit knowledge and making that tacit knowledge explicit. He conducted case studies examining what researchers, engineers, architects actually do in work. His findings refer to the internal conversations engaged in to deal with problematic situations and based on the knowledge created in action, the design and application of interventions. Cook and Brown (1999) state, "We must see knowledge as a tool at the service of knowing not as something that once possessed, is all that is needed to enable action or practice." (pg.388)

Understandings based

The understandings based approach to competence is proposed by Sandberg (1994, 2000). He attempts to explain how knowledge functions as a tool of knowing-in-action. In 2000, Sandberg adopted a phenomenography approach to investigate what defines competence in engine optimisation at Volvo Car Company. The approach provides a qualitative approach for workers to understand aspects of their world. Therefore, professional competence is not primarily constituted by knowledge and skills but by the professionals' understanding of their work. Other theorists have affirmed these findings in their empirical studies; Blomberg (2000), Chen and Parrington (2004), Partington et al (2005).

Practice based

The most common approach is based on communities of practice (Lave and Wenger, 1991), activity theory (Engeström et al, 1999), actor network theory (Law and Hassard, 1999) and socio-cultural theories (Cole, 1996). All approaches are rooted in phenomenology; Marxism and Wittgenstein's philosophy in which practice and not action forms the centre of professional competence.

Winterton (2006) explains that when practice becomes the locus, competence is seen as an indistinguishable part of professional practice and assumed to be relational.

2.2.3 What is a profession?

There has been much debate in academic literature on how to define a profession. However, it is widely accepted that a profession involves acquisition of technical knowledge and the ability on where and how to use this knowledge.

A profession can be described as a 'special kind of occupation... it is autonomous or self-directing... sustains this special status by its persuasive profession of the extraordinary trustworthiness of its members... includes ethicality and knowledgeable skill' (Freidson, 1988, p. xv).

A profession is regulated by a professional body and as the representative of the profession is seen to be controlling the occupation (Johnson 1972). As such the professional body is a separate entity to the professional and the occupation of accounting. Freidson (1973) explains that a profession is, "a set of institutions which permit members of an occupation to make a living while controlling their work." (p.17) Thus, professions have a high locum of power and control which can lead to a monopoly of practice (Johnson, 1972). Child and Faulk (1982) explain that occupational control provides members of an occupation with authority over definition, conduct and authority of their work within the parameters of the occupation.

Freidson (2001), states that "an occupationally controlled division of labour is an essential part of professionalism" (p.60). Organisations provide specialised tasks to be carried out by aspiring

accountants. It is also organisations that control the “terms, conditions, goal and content” (Freidson, 2001) of the work carried out by aspiring accountants.

Evetts (2006) terms this phenomenon ‘organisational professionalism’ and asserts it to incorporate “hierarchical structures of authority, the standardization of work practices, accountability, target-setting and performance review” (p.140.)

There are four different perspectives on professions identified by West (2003). The taxonomic approaches (1 & 2) were outlined in ‘Attributes of a Profession’ by Earnest Greenwood in 1957.

Critical theories (3 & 4) have emerged since 1970’s that recognise the power and control of PABs;

- 1) Conventional trait theories attributing altruistic motives to vocational groups in the pursuit of professionalism. Trait theories suggest a checklist approach to attributes can be applied to determining the professional
- 2) Functionalist view which extends beyond the conventional trait model. It is suggested that specialised knowledge is used to resolve issues in the best interests of society through a committed approach. The traditional functionalist view portrays a profession as possessing authority, ethical code and specific culture (Greenwood, 1957, cited in Parker, 1994). It is recognised that there is a reciprocal economic and efficiency benefit to society from these arrangements (Mautz, 1988) and privileges such as high status, protection and self-regulation afforded to the profession. Allen (1991) suggests that this professional view does not appreciate the ‘dynamic, procedural nature of professionalism’ (p.51)
- 3) Interactionist view of professions suggests that profession is an institutionalised form of control (Bedard 2001). Chua (1986) suggests that within this view professional bodies seek to further their own economic self-interest.
- 4) Self- interest rationales sharing Marxist and Weberian philosophies have emerged since 1970’s. These rationales highlight social relations and processes that enable production and reproduction of professions and professional privilege. Larson (1977) suggests that

professions organise themselves, attaining market power and social status through a process of public legitimation of their actions (Lee, 1991, p.200)

Power is a characteristic of professional privilege which has been recognised as a benefit afforded to PABs and their members, as well as status and wealth (Mills & Bettner, 1992).

Pierce (2007, p.6) writes that power encompasses;

- 4) Control of knowledge and skills – control over technical knowledge through the development of new standards
- 5) Self-regulation of the profession (professional exams, state licensing, socialisation processes)
- 6) Authority of practitioners
- 7) Control of client selection and service
- 8) Political bargaining with the State to protect self-interest
- 9) Influence on government policy formulation, interpretation and execution
- 10) Ideological and cultural influence on the community

Armstrong (1985) identifies that PABs leverage their power to control the labour within the occupation. It is acknowledged that PABs have the ability to control entry into the profession through stringent entry requirements to become a member. PABs also self-regulate (IFAC, 2003) and as such have re-negotiated their position as the profession continually evolves.

The jurisdiction (link between profession and work) explains what the professional (as compared with an occupational worker) does. Hamilton (2013) explains that the accounting profession has evolved from a largely audit based practice in the mid- 20th Century to one with multiple jurisdictions in the areas of corporate finance, tax, treasury management etc.

IFAC (2003) recommends that the training process is the route to be taken by all aspiring professional accountants. Training in a jurisdiction enables the development of professional knowledge, understanding and the practice of becoming a professional accountant. Samuel et al

(2009) suggest that the evolving accounting professional is perceived to acquire the norms of professional behaviour and that this takes place in professional practice rather than within the PAB.

Hamilton (2013) states, “the professionalization process is rooted in its jurisdiction; professionalization then is a socially constructed reality” (p.38). IFAC describe the process of professionalization of an aspiring professional accountant as the “initial professional development” (IPD).

In order to understand professional competency and its assessment in an accounting context, we must first be familiar with the complex world of professional accounting and its social constructs.

2.2.4 The Profession of Accounting (UK context)

Accounting is a politically negotiated construct (Sikka et al 2007)

Sikka & Willmott (1995) make reference to the increasing links and inter-relation between the UK state and the British accounting profession. This has raised question to the validity of claims by the professions regarding self-regulation and the public benefit and accountability principle (Cooper & Robson, 2006). Richardson (1989) suggests that Gramsci’s (1971) theory of hegemony enables better analysis of the regulation of the profession of accounting. Gramsci writes that there is predominance of one social class over another. This is a constant negotiation of political and economic control as subordinates struggle against their social experience which is a threat to the dominant class. The accounting profession is shaped by social constructs such as politics and economics. There have been changes in accumulation structures in society from Fordism to the rise of the service and white collar worker has led to an increased demand in professional services. This in turn has led to profit maximisation as an underlying strategic objective of organisations offering professional accounting services.

IFAC's mission statement starts by stating that it "seeks to serve the public interest." They define public interest as "the net benefits derived for, and procedural rigor employed on behalf of, all society in relation to any action, decision or policy" (IFAC website, 2014)

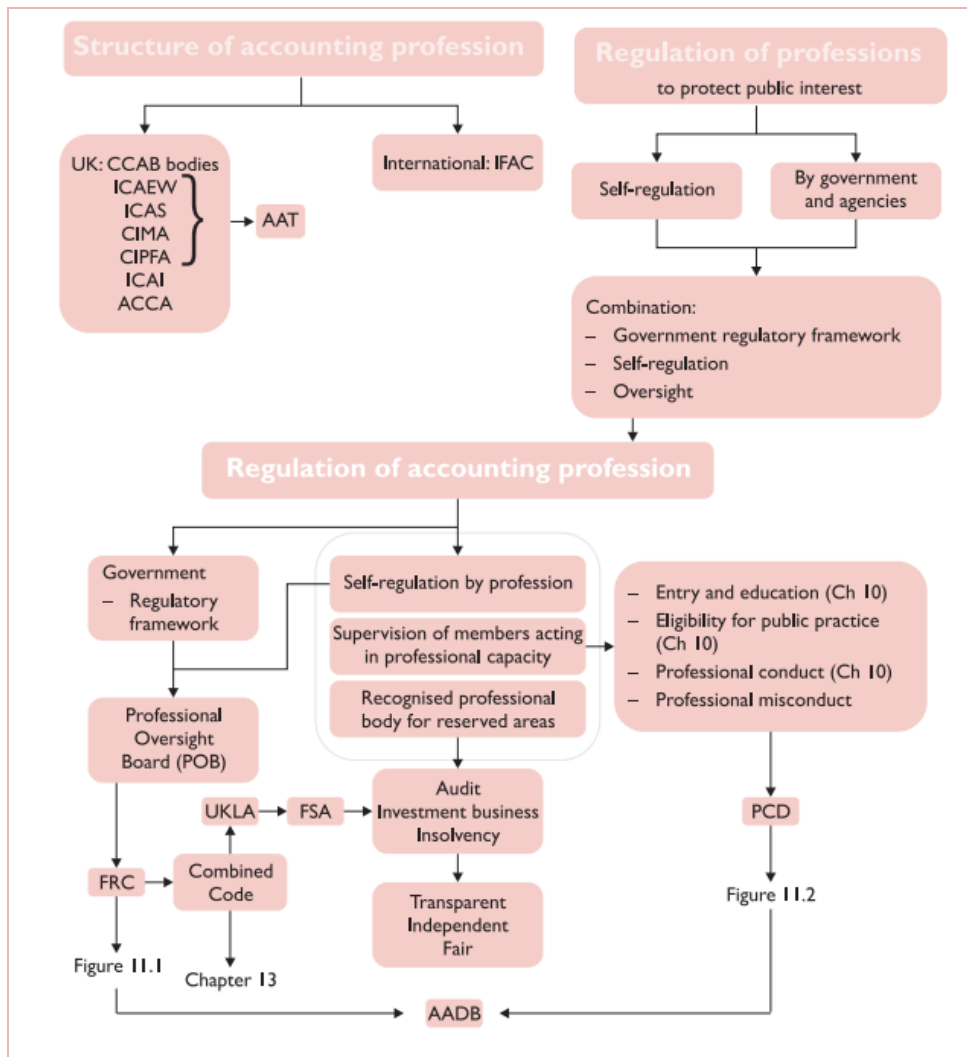
The accounting profession is self-regulated and also regulated by the government and associated agencies. Regulation of the profession is deemed necessary to protect the public interest. It is clear from Puxty et al (1987) framework that there is basic similarity in all systems of professional regulation in advanced capitalist countries such as Britain. Freidson (1986) suggests that one of the distinguishing features of a profession from an occupation is the underlying orientation to serve the needs of the public, with particular emphasis on an ethical or altruistic approach towards clients. A regulation approach stresses that any system of regulation - including audit rules, qualification of auditors, accounting standards or practice rights – operates within the context of a system of accumulation (Cooper & Robson, 2006, p.429-430).

Agrizzi et al (2006) explains that PABs draw their legitimacy from these professionalising claims, but the claims seem increasingly anachronistic. There has been a wave of international corporate scandals (WorldCom, Enron, Freddie Mac, Fannie Mae, Lehman Brothers) involving professional accountants, reported in the millennium. Accounting firms such as the now defunct Arthur Andersen & Ernst and Young have also been implicated in these scandals. The corporate scandals point to a change in the altruistic, public interest principled conventional trait and functionalist profession theories to more institutionalised, self-interest professional models of practice. These events suggest that professional values have been eroded in the pursuit of capital accumulation.

It is the logic of capital accumulation that assumes the pursuit of profit. Marx (1991) explains capital accumulation is where the capitalist (and owner of the means of production) accumulates more wealth as increasing amounts of surplus value from the worker and labour processes.

Thus, political negotiations and the creation, consumption and distribution of wealth within society shape and form the profession of accounting. They influence the role that the profession plays in wider society through policy but also the work undertaken by members of PABs. The social construction of the accounting profession is framed using principles of structure, regulation, bureaucracy and status. Weber (1968) suggests that professions through virtue of their status and “monopolistic appropriation of political powers” claim a special status. Macdonald (1995) suggests that the groups within professions exist by “virtue of social values and evaluation.” (p.3). Durkheim (1984) argues that groups of like-minded individuals will associate together and form ‘moral communities’. The strength of these groups is pivotal as the group acts as a counterbalance to the state and protects the rights of the individual (Giddens, 1971, p.101).

Hence, governance structures as part of regulation are important features of the professionalising claims of accounting. Consultative Committee of Accountancy Bodies (CCABs) operate at the national and UK level. IFAC operates at the International level. Just to clarify at this point that CCAB bodies are IFAC members.



N.B CIMA has now left CCAB (2011) but remains an IFAC member

Fig 5. Source: ICAEW “Structure and Regulation of the Accountancy Profession” (n.d) Chapter 11 p.334

Consultative Committee of Accountancy Bodies (CCAB)

CCAB was formed in 1974 under the Royal Charter by all six British and Irish PABs. AAT is a UK PAB for vocational accountants but not a CCAB. CIMA left CCAB in 2011.

The remaining UK PABs that now make CCAB as a unified voice when discussing policy with UK government and associated agencies. CCAB’s core purpose is to promote sustainable growth (capital accumulation) in the UK economy through the UK accountancy profession (CCAB website, 2014)

International Federation for Accountants (IFAC)

IFAC was founded in 1977 and based in Switzerland. It is the global organisation for accountability, oversight and consultation for the accounting profession.

Its mission is to serve the public interest by;

- Contributing to the development of high quality standards and guidance
- Facilitating the adoption and implementation of high quality standards and guidance
- Contributing to the development of strong, professional accountancy organisation and accounting firms and to high quality practices by professional accountants, and promoting the value of professional accountants worldwide
- Speaking out on public interest issues

(IFAC Strategic Plan 2013-2016, p.9)

PABs are represented by different consultative, accountability and oversight boards, committees. They are self-regulated within the boundaries set by IFAC, the government regulatory framework and oversight boards.

The activities relating to professional development/training and certification operate within the remit of the public interest oversight board and its sub-boards, in particular International Accounting Education Standards Board (IAESB).

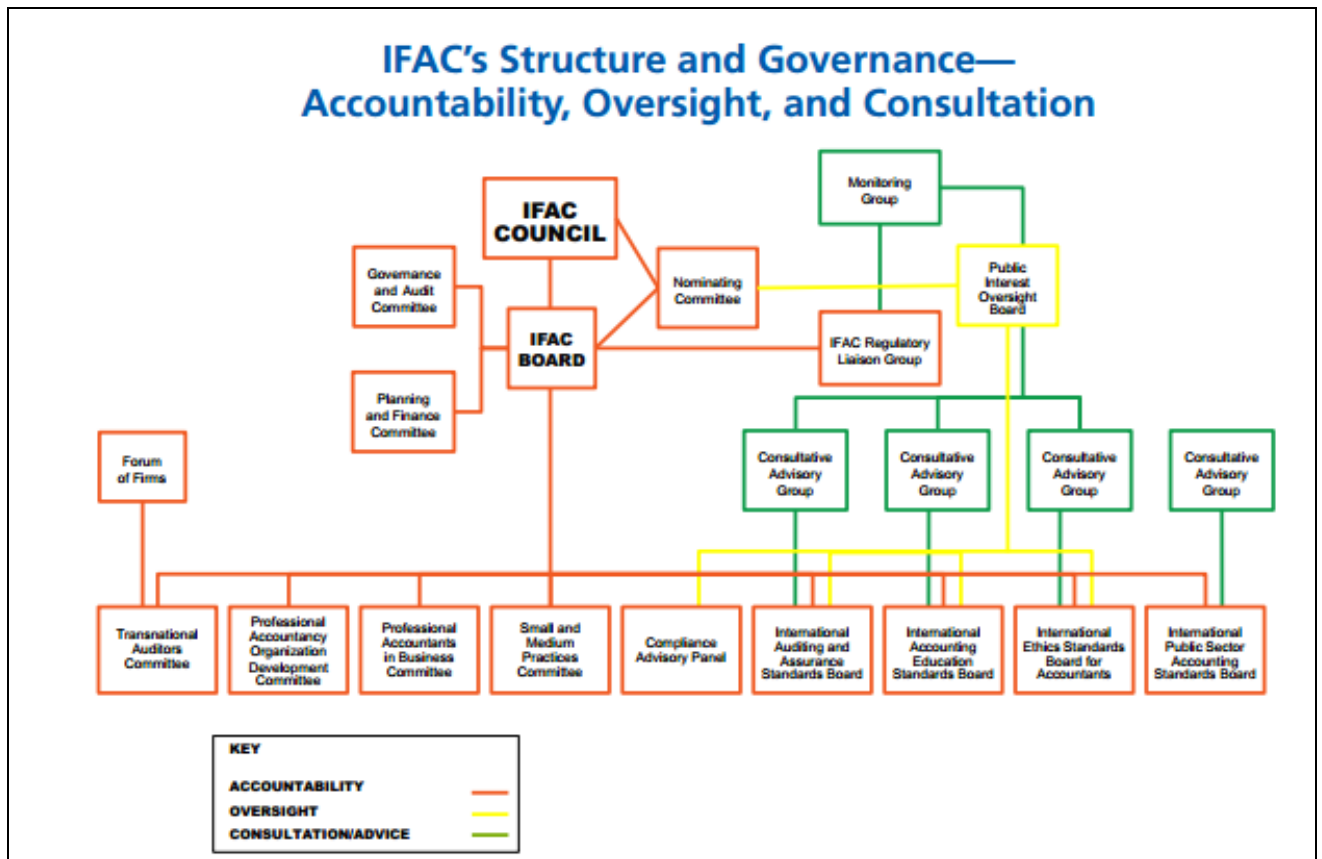


Fig 6. IFAC Structure and Governance, Source: IFAC (2012, p.22) annual accounts

The Education Committee of the IFAC International Accounting Education Standards Board (IAESB)

IAESB is tasked with developing education standards and approving the education development (ED) framework. Within this context they conceptualise the professional attributes, values, knowledge, capabilities i.e. competences of professional accounting. In addition, IAESB determine the three levels of proficiency indicators of competence (foundation, intermediate and advanced) used in professional accounting.

IAESB has issued a series of guidelines on professional education, training, experience and testing to ensure the competence of professional accountants no matter the system chosen by PABs. These guidelines are principles based within International Education Standards (IES) 1-6.

2.2.5 Professional accounting competencies

Professional competency is realised in the performance (Johns, 1995) of members of the accountancy profession and its global body, IFAC.

IFAC controls the values, attributes, skills, knowledge and capabilities valued by the profession of accounting through regulation. Such competencies enable “individuals to identify issues, know what knowledge is relevant, and know how to apply that knowledge and professional judgment to resolve issues ethically.” (IFAC, 2014, p.8). IFAC explains that membership of a PAB is one way of demonstrating professional competence.

IAESB (2009) recognise that practical experience refers to the on-the-job execution of tasks that are relevant to the field of accountancy. The practical experience part of the qualifying process is intended to facilitate the development and direct application of professional knowledge; professional skills; and professional values, ethics, and attitudes. Ultimately, it is through practical experience that trainees will demonstrate their competency to perform the roles of professional accountants. Practical experience i.e. professional practice also refers to the on-going experience of professional accountants in the accountancy field.

IFAC (2003) explain relevant competences are not only grounded in contemporary professional practice, but should consider what accountants are expected to do in the future. French and Coppage (2000) suggest a ‘backwash effect’ which will stifle innovation in the profession as assessment instruments are not constructively aligned (Biggs, 1996) with relevant competences.

2.2.6 Professional competency frameworks in professional accounting (1990’s onwards)

Nowadays it is suggested that a competency framework should ensure newly qualified accountants can perform tasks expected of them in practice to a certain standard (Gammie and Joyce, 2009) and accordingly are “competent to work as professional accountants and offer their services to the

public” (IFAC, 2003, p.8). ICAS define being competent as, “demonstrating competency at the level expected of a newly qualified chartered accountant and should be achieved on a client engagement. There should therefore be knowledge, skill or expertise attached to the competency, which a non-professional would not possess” (ICAS Online Achievement Log).

IFAC (2001) distinguishes between the outcome based functional analysis approach favoured by some accounting bodies and the input based capability.

Mark Allison, chairman of the IAESB states in an IFAC press release announcing a clarified standard on practical experience on 8th July 2011, “IFAC member bodies will be required to demonstrate that the method of gaining experience follows one of three approaches: input-based, output-based, or a combination of input- and output-based approaches.”

Normative competency assessment theory suggests that a hybrid/holistic approach is the best practice approach. Capability approaches to professional competence recognise values and attributes that have been developed as part as an integrative holistic approach. A hybrid approach evaluates competency through behaviourist perspectives. It seeks to unify the outcomes approach to competence and the “reflective practitioner” (Cheetham and Chivers, 1996), thus providing a combination of input and output based methods.

ICAS are viewed as a pioneer of competency assessment in professional accounting and were the first PAB to introduce evidentiary material requirement relating to practice experience. In 1997 following an Education Review by Professor Elizabeth Gammie et al (1995), ICAS concluded that the descriptive log book being used did not capture the work experience of students concisely. The descriptive log book did not actually allow for an assessment of whether the trainee was indeed competent. As a result, the ICAS Achievement log was developed in 1997 which outlines a prescribed number of competences in particular areas of work; Accounting, Information Technology, Communication skills and Personal Skills. In addition to these areas are optional areas of audit,

taxation and corporate finance. In 2000, specialist competences were introduced to be undertaken in the final year of the training contract and enable trainees to decide which area of accounting they wanted to specialise in. The Achievement log offers flexibility to enable current work practices to substitute competences not achievable by the student (because of limited exposure to different work experiences).

Gammie & Joyce (2009) explain that the Achievement Log is a hybrid of the functional analysis and capabilities approaches. The functional approach relates to IT, audit and tax. These competences are task orientated and very prescriptive using verbs and objects. Capabilities approach has been used for softer skills competencies e.g. personal effectiveness, people, teamwork and leadership.

The following table summarises the different professional competence/competency frameworks for all CCAB professional bodies in UK (including CIMA who left in 2011)

Professional Accounting Body	Competency Framework	Components of Framework	Professional Jurisdiction	Competency assessment method	Assessor	Competency Approach
Association of Accounting Technicians	Work experience and reference form No time requirement (though experience must have been gained in the last 5 years)	Personal effectiveness (communication, commitment to CPD, behaving ethically, managing time and workload, teamwork) Technical competence (audit, cost accounting, credit control, financial accounting, management accounting, payroll, tax and teaching) - ONE	Work, including voluntary work or teaching	The technical competency must be verified by your employer or a senior colleague. The personal effectiveness competences are verified by AAT based on examples cited	Have knowledge of your work within your current or most recent job Work in a position senior to you Have worked with you for at least six months	Functional (based on performance of tasks)
Association of Chartered Certified Accountants (ACCA)	Practical Experience Record (PER) 36 months' experience (Experienced gained prior to membership)	5 Essentials to be completed; Professionalism and ethics Stakeholder relationship management Strategy and innovation	Relevant work experience (as defined by the role rather than the organisation)	Exams Ethics module Observation in the workplace by IFAQ accountant - work place mentor A training supervisor is	"Workplace mentor who knows your work" Workplace mentor* is nominated by trainee and approved by ACCA on basis	Holistic Performance evidence and capabilities evidence

	will count as well)	<p>Governance, risk and control</p> <p>Leadership and management</p> <p>4 from 11 Options to be completed</p> <p>4 from 15 Technicals to be completed</p> <p>Corporate Reporting Financial Management Sustainable management accounting Taxation Audit and Assurance</p> <p>2 challenge questions for each performance objective</p> <p>1 reflective statement for each performance objective</p> <p>500 words for each question 300 words for each reflective statement</p> <p>(Updated Feb 2016)</p>		<p>required to countersign if workplace mentor* is not IFAQ qualified</p> <p>(*change from workplace mentor to practical experience supervisor from Feb. 2016)</p>	of qualification and post membership experience	
Institute of Chartered Accountants England and Wales (ICAEW) UK	<p>Technical work experience (TWE)</p> <p>450 days 1 day = 7 hours</p>	<p>Accounting Audit & Assurance Tax Financial Management assurance Insolvency Information Technology</p> <p>At least one area</p> <p>(one or more of these areas)</p> <p>Audit work is not essential</p> <p>Structured Training in Ethics (STE)</p>	ICAEW approved Employer	<p>Exams Observation by "Qualified Person Responsible for Training" (QPRT) at ICAEW Approved Employer</p> <p>QPRT is a member of a professional accounting body with at least 2 years standing If QPRT is not ICAEW member – the trainee must have access to ICAEW member Learn,</p>	<p>QPRT (nominated by trainee/employer and approved by ICAEW)</p>	<p>Functional (based on performance criteria only)</p> <p>TWE form for QPRT to sign off</p>

				practice, apply ethics – 6 monthly review		
Chartered Institute of Management Accountants (CIMA) UK	<p>Practical Experience Application – recorded in a career profile</p> <p>3- 5 years or more career profile</p> <p>(Experience gained before registering as a student will count as well)</p>	<p>Financial and management reporting</p> <p>Financial management financial and business analysis</p> <p>Management accounting (core at least 18 months' experience)</p> <p>Performance management</p> <p>Audit and assurance</p> <p>Risk management</p> <p>Taxation</p> <p>Insolvency</p> <p>Forensics</p> <p>At least one other than the core competence</p> <p>Influence Negotiation and decision making Communication Collaboration and partnering</p>	Work (including voluntary work)	<p>Verifier is usually the manager of the trainee (no stipulated qualification necessary)</p> <p>AND</p> <p>Face to Face assessment (x1hr) at CIMA</p> <p>or</p> <p>Postal application to CIMA for review</p>	<p>CIMA Fellows x2</p> <p>(application/ face to face assessment)</p> <p>(Assessors are independent – no relationship with the student and not CIMA staff)</p>	Functional (based on performance criteria)
Institute of Chartered Accountants Scotland (ICAS) UK	<p>Achievement Training Log</p> <p>3 years or more experience</p> <p>450 days</p> <p>(only during the training contract)</p> <p>Very prescriptive training log</p>	<p>Prescribed areas of competence</p> <p>Accounting Information Technology Communication and Influencing People, Teamwork and Leadership Personal Effectiveness (Core/Mandatory)</p> <p>Specialist/technical competencies</p> <p>Accounting Audit – Internal and External Compliance Corporate Tax Personal Tax Corporate Finance Business Advisory</p>	ICAS Authorised training office	<p>Exams</p> <p>Business Ethics assessment</p> <p>Internal references (clients)</p> <p>Appraisal</p> <p>(Core competences must be achieved before technical competence)</p>	<p>Reviewer (Counselling manager/ Counsellor/ People Manager) AND your Counselling Member or Training Principal (Adhere to terms of tripartite contract)</p>	Holistic Performance evidence and capabilities evidence

		Information Technology Credit Risk Management Treasury Insolvency and Business Recovery Forensic accounting Decision support 6 specialist/technical competencies				
Chartered Institute of Public Finance Accountants (CIPFA) UK	Practical Experience Portfolio (PEP) - 2013 400 days	Leadership and Strategic Management Strategic and Operational Financial Management Financial and Performance Reporting Governance, Ethics and Values Audit and Accountability Partnerships and Stakeholder relations Change, risk and project management Procurement and contract management Credit Risk Management Treasury "Reasonable number" to ensure breadth of experience	Relevant Work Experience	Statement of Expertise Professional activities x3 (including an oral presentation) General reflection and learning PDP and development plan	Validation Professional activities must be validated by Employer (A4 page) Portfolio Paper copy portfolio of activities x2 copies to reviewers who use their judgement based on criteria to decide whether competency has been evidenced or not	Holistic Performance criteria and capabilities

Table 2: Competency assessment frameworks of UK PABs (at professional level)

The final section of this part of the literature review brings together the different elements of professional competency identified in the literature review.

2.2.7 Dimensions of Professional Competence

Regardless of which of the perspectives relating to the accounting profession is acknowledged to occur, there are certain characteristics identified as essential to be demonstrated by professionals. McPhail (2006) refers to these as 'structural characteristics' of a profession. The PABs prescribe and protect these structural characteristics through self-regulation. Armstrong (1985) states, "professions could be defined by the possession of certain traits, notably independent, ethical or technical standards of performance and collegiate control of these (p.133).

IES 3 (2014) groups 5 broad sets of skills that professional accountants should have;

- 1) Intellectual skills
- 2) Technical and functional skills
- 3) Personal skills
- 4) Interpersonal and
- 5) Organisational and business

Knowledge is discipline specific and relates generally to financial and management accounting, financial management and tax. The skills encompassed with competence outcomes include; communication skills, interpersonal skills, general business knowledge, accounting knowledge, problem solving skills, information technology, personal attitudes.

IFAC make an important distinction between capabilities and competence. They state, “Capabilities are the attributes held by individuals that enable them to perform their roles, whereas competence refers to the actual demonstration of performance.” (IFAC, IEP 2, 2003)

“The IAESB recognizes that when assessing capabilities measuring output is likely to be superior to measuring inputs. Output-based approaches concentrate on measuring the development and maintenance of competence actually achieved through learning, rather than measuring the various learning activities.” (IAESB, 2012, p.101).

Schon (1983) suggests that learning is developed by professionals to solve problems, purely by applying specialist knowledge. He proposes that professionals learn through and within practice (‘knowing in action’) through reframing and resolving day to day problems and reflecting on these actions. Part of the process of knowledge in action is developing an awareness of tacit knowledge and making that tacit knowledge explicit, which is achieved through critical reflection.

Johns (2000) explains that critical reflection is “a window through which the practitioner can view and focus self within the context of her own lived in experience in ways that enable her to confront,

understand and work towards resolving the contradictions within her practice between what is desirable and actual practice” (p. g34). Therefore, critical reflection is an important part of achieving desirable practice because the aspiring professional accountant attempts to self-evaluate whether they have reached the level of desirable practice, to be deemed competent. This is a critical stage within the professional socialisation (initial professional development) process.

Thus, the elements of professional competence identified from the literature review have been brought together in a framework, presented below;



Fig 7. Dimensions of professional competence

To be clear, professional competency is successful accomplishment of performance based on these dimensions of professional competence.

The next section evaluates the concept of professional competency as a social construct.

2.3. PART THREE – Social construction of professional competency

The first section of part three of the literature review, reviews the social construction of professional competency as an ideology and normative concept. It is the case that professional competency is developed as a social construct, through the process of socialisation. Socialisation is the process by

which aspiring professional accountants learn what it means to be a “professional” in a particular context. Cook et al (2010) explain that trainees internalise understandings of “who professionals are and how they should act” (p.6). Hence, these understandings are socially constructed through interactions and social processes within different social structures involving social actors within the competency assessment environment.

2.3.1 Social Constructivism

Social constructivism emphasises the importance of context and culture in understanding what occurs in society and constructing knowledge based on this understanding (McMahon, 1997). The basic principle of social constructivism is that knowledge is constructed through social interaction and is the result of social processes (Gergen, 1995). There are three underlying assumptions to the concept of social constructivism;

- 1) Knowledge is gained through human interactions
- 2) Knowledge is socially and culturally constructed and influenced by society
- 3) Learning is a social activity

Max Weber (1914) suggests that human beings rely on each other’s actions and assign meaning to them. Social theory, therefore, relates to social actors in their interactions within structures in the social world. Berger and Luckmann (1966) in *The Social construction of reality* clarify the principles of social constructivism. They explain that individuals’ construct their own reality through interactions with the others and the environment to a view of collectively constructed meaning.

It (social reality) is therefore a shared, rather than individual experience (Prawat and Floden, 1994). Shared understanding is based on common interests and assumptions that form the ground for their communication (Rogoff, 1990) and is shaped and evolves through negotiation (Prawat and Floden, 1994). Individuals acquire the beliefs, behaviors, and values that predominate or are valued in a culture, thus permitting him or her competent membership in that culture (Mehan, 1979).

Shulman and Carey (1984) described social constructivism as representative of a paradigmatic shift toward viewing the construction of meaning or psychological events through the reciprocal influence of individual and context. Jarvis (1983) explains that it is the “process by which the objective world of reality is internalized and becomes subjectively meaningful” (p.88).

This process is referred to as socialisation; the acquisition of skills, knowledge, and dispositions that enables the individual to participate in his or her group or society (Sivan, 1986). Weidman, Twale and Stein (2001) define socialisation in a broad sense as, “the process by which persons acquire the knowledge, skills and disposition that makes them more or less effective members of society” (p.4).

Howkins and Ewens (1998) explain socialisation gives up the societal and media stereotypes prevalent in our culture and adopts those held by members of that profession (p.42)

Thus, the concept of professional accounting competency is socially constructed through the interactions, knowledge and ideologies of social actors within the professional accounting world. This shared meaning of professional competency translates into set of ideals (Macdonald, 1995), behaviour and presentation (Anderson-Gough et al 2000), corporate image (Coffey, 1994), identity regulation (Alvesson et al, 2008), technical expertise (Grey, 1998), social status and prestige (Weber, 1968) and moral communities (Durkheim, 1984) of like-minded individuals who are members of professional accounting.

McGaghie (1991) states, “Inferences about professional competence or readiness to practice are, at bottom, inferences about constructs. The term professional competence is itself a construct. Professional competence is neither visible nor tangible. Instead we infer its presence or absence from measurements – some crude, some precise – that are assumed to be good indicators that certain people “have” or “can demonstrate” competence under certain circumstances.” (p.7)

Aspiring professional accountants are required to interact with other social actors as well as negotiate their occupational roles, observe, act under instruction in order to adopt the values,

behaviours and attitudes of the profession. The process of socialisation into a profession is of central importance (Tooth, 1996, p.261). Within the process of socialisation aspiring professional accountants learn through education and practical experience the values, behaviours and attitudes to assume their professional role (Howkins & Ewens, 1998).

The concept of professional competency has been evolutionary and is not a single homogeneous concept. Existing socially constructed meanings of professional competency suggest that competency requires the aspiring professional accountant to demonstrate an ability to integrate thinking, feeling, and behaviour within a professional work setting.

2.3.2 Professional socialisation as a learning process

Values are learned (Wright, 1987).

Lave and Wenger (1991) propose learning is a social process whereby knowledge is co-constructed, suggesting that learning is situated in a specific context and embedded within a particular social and physical environment.

Schon (1973) explains that a workplace is a striking example of a learning system. This concept was further developed by Senge's (1990) conceptualisation of the 'learning organisation.' Learning systems are not just functional, institutional systems, but contexts where learners acquire knowledge through actions and iterative learning processes relating to their own actions and experience to improve performance. Professional socialisation happens within a learning system, which is typically the workplace but can also be where professional education is taking place and through doing specialised tasks.

Learning does not happen in a vacuum. Learning involves interactions and experiences in different situations. Professional competency is shaped and developed and through a continuum of time, but is not restricted to place. Hence the interactions or more specifically professional encounters and

jurisdiction in which these encounters occur are important in terms of what Heller et al (2001) have termed 'context.'

2.3.3 Constructivist, Social and Situated Learning Theories

A central conceptual theme of the thesis is professional competency as an outcome i.e. demonstration of successful accomplishment in a work based context, rather than the process of learning. As such, it is the case that not all socio-cognitive, constructivists, social and situational learning theories will be reviewed. However, in order to understand the interactions of aspiring professional accountants in the assessment environment and their significance on assessment, it is important to understand learning theories that are pertinent to professional socialisation. It is noted that professional socialisation occurs through interactions and negotiations within socially constructed groups.

Social and Situated Learning Theories

Urie Bronfenbrenner, Lev Vygotsky and John Dewey all theorised human development and learning is shaped by societal interactions. Jean Lave (1988) argues that learning as it normally occurs is a function of the activity, context and culture in which it occurs (i.e. learning is situated).

The literature refers to situated learning theory as that where learning is expressed as a socio-cultural activity (Hansman & Wilson, 1998). Situated learning is not an individual activity; rather, learning is a social practice embedded in particular contexts. These contexts provide situational interaction (Brown, Collins, & Duguid, 1989). Situated learning typically involves a problem or task, other persons and environment or culture (Kurti, Spikol, Milrad, & Svensson, 2007). Davies (2010) explains situated assessment is authentic and modelled on what happens in professional practice, feedback involves peers, disciplinary experts and those in relevant roles.

The tools that learners use in a particular situation is another important situational factor that determines learners' practice (Hansman & Wilson, 1998; Lave, 1988; Lave & Wenger, 1991). The

location, physical space and spatial relations between the learner, learning experience and their environment influences how learners interact with others (Lave & Wenger, 1991; O'Donnell & Tobbell, 2007). Learning is also situated in a social context or culture (Hansman, 2001; Illeris, 2007). Situated and experiential learning recognise that context is an important part of the 'learning system' in guiding or obstructing the development of new understandings.

There is constructivist, situational & social learning theories pertinent to professional socialisation which are summarised below. These theories therefore provide theoretical underpinning to the assessment design of tasks within the assessment environment.

Learning Theory	Characteristics	Theorists	Link with Professional Socialisation
Experiential learning	Rooted in Experience, cognition, perception and behaviour are integrated	Kolb (1984), Lewin (1951), Jean Piaget (1936)	Learning from experience; self-reflexive understanding of practice and decision making
Situational Analysis	Contextualised practice, social, physical, aesthetic and spiritual aspects and therefore requires use of a multi-method approach to ask and answer the questions presenting the situation	Lave (1991), Brown, Collins & Duguid (1989),	Professional work that incorporates identity, context, impact, negotiation of processes, situational constraints
Transactional learning	Active learning, participation in and on learning, collaborative, holistic, provides relevant professional assessment and adheres to ethical standards -	Maharg (2005)	Learning across transactions in simulated environments using rich media for effective assessment of

	Monolithic		professional learning
Inquiry based learning	Active inquiry activities provide a valuable and authentic context for learners to acquire, clarify, and apply an understanding of content knowledge.	Greeno, Collins, & Resnick, (1996)	Acknowledgement and understanding of personal knowledge constraints – recognise personal development needs

Table 3. Learning theories pertinent to professional socialisation

These learning theories suggest that knowledge and learning is transferable across different contexts and interactions within social structures are fundamental to personal knowledge and learning.

However, Illott and Murphy (1999) question whether individuals can transfer expertise from one context to another.

ACCA (1990) explain that competence is not restricted to one workplace, but covers other environments and alternative ways of doing things (p.1). Hamilton (2013) postulates that the learning of an aspiring professional accountant to PAB member is a process which includes participation with for example, fellow trainees, colleagues, managers, clients, lecturers, friends and mentors. Wegner (1998) names less formal structures of learning in this way, ‘Communities of Practice.’ People engage in collaborative learning in a shared domain of human endeavour (Wenger, 2009). Brown, Collins, and Duguid (1989) suggest that ‘situated learning’ emphasises the development of capabilities of learners within their community of practice. Situated learning (Lave & Wenger, 1991) is anchored in experience and situations in which learning and knowledge is applied and is of course, highly contextual. Hamilton (2010) conducted a qualitative study in which it found accounting students develop their sense of professional identity through membership of communities of practice (Wegner, 1998) within their training organisations, rather than through the PAB. Learners participate in many learning communities during their professional socialisation which prepare them to become members of professional communities (learning to think and act like

a professional accountant for example). This perspective is consistent with social constructivism but also emphasises the role of identity formation.

IES 3 (2014) suggests that assessment design may include, “Creation of work-based simulations in order to provide sufficient, equitable, and reliable assessments of professional skills.” (A19)

Therefore, practical experience is that which enables aspiring professional accountants to participate in assessment activities to demonstrate their professional skills and may not be restricted to the workplace.

2.3.4 Professional socialisation in work

Cohen (1981) states “professional socialisation is the complex process by which a person acquires the knowledge, skills and sense of occupational identity that are characteristic of a member of that profession. It involves the internalisation of the values and norms of the group into the person’s own behaviour and self-conception. “(p.42)

Professional socialisation is based on role theory which has its origins in sociology (Kuan Lai & Hong Lim, 2012). There are two types of sociologic conditions involved in the professional socialisation process according to Cohen (1981); structural and cultural. In the context of professional accounting structural conditions would be rules; job descriptions, roles and responsibilities. Whereas, Cohen (1981) explains, cultural conditions are idea systems prevalent and expressed through symbols and ceremonies.

Professional socialisation is a lifelong process and does not just happen in the workplace. Higher education is a first step where the individual starts the process of professional socialisation (Page, 2005, p.105). Although professional socialisation starts with higher education, it continues through a lifelong continuum (Shank & Weis, 2001). However, the literature tells us the process of professional socialisation is rooted in the experience of work. Anderson-Gough et al, (1998a)

suggest that it is used by employers as a tool to assume control over employees and maintain a uniformity of behaviour and values in work.

Interactions during the professional socialisation process happen during professional encounters in the workplace and communities of practice. Cooper and Robson (2006) explain that organisations where these encounters occur are, “sites where professional identities are mediated, formed and transformed, and where important conceptions of personal [and] professional...are transmitted” (p. 415).

Covaleski et al (1998) explain that mentoring transforms the protégé into behaving like a “professional” or “corporate clone.” Mentors shape employees views of what is important and need prioritising. Covaleski et al (1996) explain that mentors influence what their protégé’s view as important and what to prioritise, even to the extent that they shape “what constitutes reality.” (p.15). In a qualitative study by Howkins & Ewens (1999) involving 26 sampled student nurses conducted on professional socialisation in nursing, they found that students reconstructed their roles and made changes to their own personal constructs based on their experiences on their course. It is telling that these students were not in the world of work, where power relations and the discourse of control by mentors or managers come into play.

Notable research studies, typically based on long term ethnographic research explore the construction of ‘the professional’ within accounting firms. Listed below are prevalent theories and themes of these studies relates to professional socialisation.

Theorists	Year	Methodology	General findings
Amanda Coffey	1994	Qualitative study (Observation and	Time was used to demonstrate the

		<p>Ethnographic) of the professional socialisation of chartered accountants employed on ICAEW training contracts Western Ridge</p>	<p>commitment of trainees to the organisation. How they spent their time and their commitment to time was a deciding factor in their success – boundaries between personal time and organisation time had implications on their professional socialisation – time was controlled by the organisation</p>
<p>Mark Covalleski, Mark Dirsmith, James Heian & Sajay Samuel</p>	<p>1998</p>	<p>Ethnographic study (in depth interviews with n=180) using biography evidence and key work activity narratives of practice office managing partners</p>	<p>Focused on Management by Objectives (MBO) and mentoring. MBO is used to subvert autonomy and discretion of practice partners rooted in client service. Mentor and protégés use the discourse of formal disciplinary techniques to subvert, transform and bend MBO to serve their own needs – they form their own power</p> <p>Control in professional firms occurs in a complex field of power and resistance. Workers are explicitly and unwittingly constituted as</p>

			“corporate clones”
Christopher Grey	1994	Qualitative (Case study material) with accounting trainees – investigating disciplinary power	Professional socialisation includes “being seen to be busy even when not,” haircuts, the way you dress in relation to organisation expectations. Trainees were prepared to do mundane tasks e.g. low level audit and saw this as a natural progression to where they wanted to be career wise “The cull” – the ratings system applied to determine whether trainees are kept on is not always based on performance – based on desirable and acceptable behaviour employee voice is silent – perceived as a process lacking objectivity
Gerard Hanlon	1996	Quantitative and Qualitative research with Big Six in Ireland and USA	Changes in labour structures from Fordism to commercialisation have impacted on demand and nature of professional accounting services. Identifies 3 competences; technical competence –

			<p>carrying out the work itself.</p> <p>Commercial competence is about skills not specific to a workplace or set of work practice which is developed but functionally important e.g. ability to get on and communicate with the client. Lastly, social competence which is about social class background, educational background etc.</p>
Timothy Fogarty	1992	<p>Literature review –</p> <p>Organisational socialisation</p> <p>- Proposes a theoretical framework</p>	<p>Coercive isomorphism – use of forceful means to produce an individual to serve the organisation’s needs</p> <p>Economic coercion – the use of reward e.g. premature signoffs; structures to shape performance e.g. profit maximising</p> <p>Mimetic isomorphism – people implicitly gravitate towards similarity (or in the case of trainees try to emulate mentors when they see the rewards and benefits enjoyed by them)</p> <p>Normative isomorphism – direct individuals to</p>

			<p>conform to the ideals of the profession. He asserts that the weakness of the professional model combines with a confluence of external factors to dampen conflict between normative and other social factors (He does concede there is little evidence to support this and more investigation is required)</p>
<p>Anderson-Gough, Grey, & Robson</p>	<p>2002</p>	<p>12 month qualitative study of two international accountancy firms</p>	<p>Senior workers e.g. partners in firms had loyalties to their employing organisation not the Institute</p> <p>Credentialism held by trainees – the qualification is seen as a means to an end to some other award (job related e.g. better job prospects) and does not itself have intrinsic value</p> <p>A sense of professionalism is tied to conduct, which can be seen as a source of competition, but is also contributes toward a solidarity in the profession.</p> <p>Professional socialisation is</p>

			a relay between the imperatives of organisational control and professional and institutional configurations.
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Table 4. Empirical studies exploring themes related to professional socialisation

These studies show us that being accomplished in a professional role is largely about behaviour in the work roles where specialised tasks are undertaken. However, the highly contextual nature of the workplace creates discourse within which power relations and knowledge inter-connect to shape identities and actions of individuals in their work roles.

The next section evaluates the distribution of professional work roles in accounting and the impact that work economics has on training and therefore access to professional socialisation of aspiring accountants.

2.3.5 Social structure changes in professional accounting work

Evetts (2006) explains that there is a need to reframe professionalism as a discourse of occupational/organisational change and control. She notes that professionalism roots in organisations lie in rational-legal forms of decision making, standardized work practices and target-setting. Professionalism (and therefore, the professional socialisation process) is operationalised as “a discourse of control used by managers in work organisations” (p 140). This form of normative control and “teaching” aspiring professional accountants the way things are done in the organisation is referred to as ‘identity regulation.’ Alvesson and Willmott (2002) state, “through identity regulation, employees incorporate specific managerial instructions into their personal narratives of self-identity (p.622)

Freidson (2001) notes that ideal professions are obliged to employ only those qualified by the occupation itself, which as a result prevents anyone who lacks the qualifications that the occupational group has itself determined. Organisations control the “terms, conditions, goals and content” of their work (Freidson, 2001, p.60). This gives professionals working in organisations exclusive jurisdiction in their area, therefore controlling access to the professional socialisation of aspiring professional accountants.

It is worth noting, that there has always been segmentation and stratification (Jacobs, 2003) in the occupation of accountants through hierarchal structures, gender, geographical dispersion, ethnicity, private and public sectors etc. (Robson & Cooper, 1990). Segmentation and stratification of labour impact on aspiring professional accountants’ access to work roles and specialised tasks within organisations. Therefore, work roles and the economics of labour supply is an important contextual and societal factor impacting on professional competency which is grounded in the experience of professional work. Another point of note, however, is that occupational accountants who are not professionally qualified are also able to succeed in the labour market.

There have been significant changes in the professional accounting labour market over recent times. Historically trainees in professional accounting in England were graduates. Studies by Anderson-Gough et al (1998), Grey (1994), Coffey, (1994) affirm this. McDonald (1995) suggests that since 1960’s, entry into the English profession of accounting has been “almost entirely confined to graduates” (p.204). However, in more recent times as noted by Gammie and Kirkham (2008), unlike many of the other professions, there are many professional accountants in the UK without a University degree. Hunt (2007) observes that those graduates employed by organisations are often from non-relevant accounting backgrounds. Contemporary practice involves new organisationally-developed modes of graduate training becoming available to aspiring professional accountants.

The intervention of 'Big Four' firms into professional education, narrows "appropriate aspiring accountants" (Cook et al, 2012) into the profession. These individuals have prior experience of working in the organisation that they are applying to or are those who demonstrate the most potential for "seamless fit" (Chatman, 1991). They already possess the values, attributes and norms and are used to the practices of the organisation.

Changes to labour have created new intersections between PABs, HEIs/Universities and employers. Stratification of the professional has increased the specialised nature of tasks carried out by lower-level employees (Galanter and Henderson, 2008). The progression of (professional accounting) trainees on school leaver schemes in mid-tier firms is remarkably similar to graduates (Jephson, 2013). In short, despite studying technical competence at different levels, both groups undertake the same professional work practices.

This part of the literature review aims to provide some analysis of professional competency as a normative, socially constructed concept. Its relational concepts/theories include; status and prestige of professional accounting (Weber, 1968), social roles of occupational groups (Durkheim, 1951), formal education and training (Carr-Saunders and Wilson, 1933) and specialised work (Freidson, 2001).

We have seen within the literature review that the contemporary theory of professional work for aspiring professional accountants has changed significantly in recent times. There have been changes within and around professional accounting education and training, predominantly influenced by government and organisations within the profession, looking to reduce costs associated with training and maximise their returns on investment. The changing power relations between PABs, organisations employing aspiring professional accountants and Universities/HEIs is

significant in the context of the study. These power relations are an integral consideration of the PR research design of the study.

The next part of the literature review evaluates the concept of assessment in a professional accounting within the context of the verifiable evidence requirements of IES 6. There are no research studies to date in this area, given that IES 6 is introduced in July 2015. Therefore, this part of the literature review makes reference to empirical studies in which competency assessment has taken place (and evidence has been constructed as part of the assessment requirements). These studies will be used to illustrate pedagogy theories that use evidence relating to competency assessment. These theories are used to inform the pedagogic approach to the design of the theoretical framework of professional accounting competency assessment framed at the end of this literature review.

2.4 PART FOUR – Assessment of Professional Accounting Competency

There are different ways in which to assess and evidence professional competence. Eraut (1994) differentiates between two types of evidence; performance and capability. Performance evidence is linked to the functional approach and as such is obtained directly from the workplace. Capability evidence is described as ‘evidence not directly derived from normal performance on-the-job’ (Eraut, 1994, p.200) but which may provide evidence of a potential to perform, this form of evidence is associated with cognitive processes associated with decision making.

It is recommended that the most effective way of assessing competence is by combining performance and capabilities evidence (Eraut, 1994) in a portfolio type approach (Lines and Gammie, 2004).

2.4.1 Current model of assessment of professional accounting competency of IPD – A combined approach

In spite of the commonality of professional competences across the different PABs, there are differences in the provision of classes, length of work experience and assessment strategies that exist (Lines and Gammie, 2004).

IFAC (2012) define (competency) assessment as, “the measurement of professional competence developed through learning and development” (IES 6 (revised), Paragraph A3). “The key to professional assessment is the nature of the professional role a candidate will fill, not just the information experts think beginners should master.” (McGaghie, 1991, p.5). Notwithstanding different competence requirements across the different PABs, there is consensus that direct observation in the workplace is a better way to assess competence than paper based examinations (Stolowy, 2005).

Assessment probably has the greatest influence on how and what students learn than any other single factor (Boud, 1989). Students vary their learning strategies and attitudes to learning to cope with the assessment system (Harris and Bell 1986). It is widely reported that accountancy exams are synonymous with the ability to succeed in examship (Lines, 1999) rather than assessing the aspiring professional accountant’s competence to work as a qualified accountant. IFAC (2003) suggests that purely theoretical and knowledge based education does not meet the needs of all employers (p.124-125). Eraut (1994) suggests that work based assessment is more valid in the determination of competency to practice as a professional.

IFAC (2015) states, “Assessment, measurement and monitoring are central to the process of demonstrating that professional competence has been achieved and therefore that learning and development has been effective.” (Para 43.) The underlying principle of protecting the public interest in professional accounting competency assessment associated with the framework is stated by IES 6 (2012), A4 Para. 7;

- 1) Public interest is protected, and the credibility of the profession is enhanced, when only those who meet the profession's competence requirements are permitted to be professional accountants.
- 2) IFAC member bodies and regulatory authorities have a responsibility to ensure that professional accountants have the competence expected of them by the public, employers, and clients.
- 3) Professional accountants have a continuing duty to maintain professional competence to ensure that clients, employers, and relevant stakeholders receive competent professional service.

It is thus the case that performance in professional work, professionalism and professional competency are intrinsically linked. The achievement of professional competency is based on judgment inferred from performance (Wolf, 1995, Gonczi et al 1993).

It also seems sensible that as there is a plurality of third party stakeholders' whose needs should be met in terms of competency assessment, there is also a plurality of requisite competencies required. We have seen in part three of the literature review that 'organisational professionalism' (Evetts, 2006) has re-defined what performance is expected to be. "Organisational professionalism" is operationalised as a control tool which is linked to performance evaluation in the context of organisational targets.

The work of Anderson-Gough et al (2002) illustrates how accounting organisations frame professionalism as the "correct way of doing things." Grey (1998) suggests that being understood to be a professional is related to behaviour and presentation in front of the client. Hanlon (1996) asserts that professionalism is only demonstrated when the fee paying customer is content. This implies that to demonstrate competency is to perform to a standard when the client who pays for the work is content.

Fournier (1999) explains that professionalism is redefined by organisations as a means to profess appropriate work identities and conducts. Covaleski et al (1998) explains that through a process of rhetorical professionalization organisations transform individual trainees into disciplined and self-disciplining members whose work goals, language and lifestyle come to reflect those of their employing organisation (p.293)

However, the limitations and bias inherent in a professional competency assessment model where judgments of performance are based on observation alone has been widely reported (validity issues; Kane (1992), bias; Percival et al (1994). Williams & Rink (2003) explain practice-based assessors need to be able to assess overall competence and not just directly observed competence. According to IES 6 (effective from July 2015), the evidence submitted by the aspiring professional accountant for assessment should draw on the outcomes of one or more assessment activities that take place during IPD. As there are no research studies to draw on in this area, other professions are referred to.

Different professions adopt different assessment strategies applicable to their assessment domains within the assessment environment. Below are empirical studies from a range of professions investigating assessment strategies employed to assess competence/competency. Evidentiary judgement in these studies is exercised by experts based on different evidence types to make assessment decisions regarding competency.

Study title	Participants	Main theories	Method & scope	Results & Recommendation	Strengths & weakness	In relation to my own study
Assessing dental students'	93% of dental schools in US were surveyed	Goal of assessment in health	ADEA CCI online survey	Traditional assessments (MCQs, clinical competency exams,	Strengths Comprehensive study using a very wide range	Tasks relating to assessment strategies use

competence		professions	Determine	laboratory practical,	of assessment strategies	Bloom's
Albino et al	45% of US dental	education is to	assessment	daily grades and		Taxonomy
(2008)	school course	determine	strategies used	procedural unit's	Responses provided	and Miller's
	directors responded	students' capacity	in dental	requirements comprised	largely by course	competence
		to integrate and	schools to	of 62% of assessment	directors with expertise	pyramid –
		implement the	measure		and knowledge of	these are
		various domains	students'	13% included the "best	assessment	some of the
		of learning that	progress	practice" reports (OSCE,		theoretical
		21 item online	through six	CAT, portfolio, triple	Assessments are aligned	frameworks
		questionnaire	domains of	jump exercise, chart-	with Miller's competence	underpinning
		was piloted by 89	general	simulated evaluation	pyramid to describe	my study
		faculty members	dentistry	and longitudinal/global	learning and	
		at 3 dental	competence	evaluation)	measurement continuum	Consider the
		schools who				measurement
		provided	Determine how	Common assessment		of time which
		recommendations	dental schools	used is that which has		is a
		for modifications	assess	been used often before		continuum in
			students'	– more novel	Weaknesses	the real world
		931 usable	overall	assessments such as		of practice
		responses	readiness for	portfolio are used	Based on dentistry not	
		identified the use	graduation and	minimally	professional accounting	In other
		of all	entry into	"Tendency to focus on		assessment
		17 assessment	unsupervised	what is most convenient	US not international/UK	environments
		strategies cited in	dental practice	to assess"	study	- "snapshot in
		the questionnaire		"Our silos have been in		time
		collectively define	Determine	place for a long time"	Some assessment	assessment" –
		competent	faculty	"Can a student really be	techniques are unique to	is this
		practice over an	members'	called competent after	dentistry education	valid/realistic?
		extend period of	perceptions of	doing a procedure once		
		time, with day to	several	or twice?"		
		day consistency,	assessment	"We assess what we can		
		in a work	issues unique	see"		
		environment that	to pre-doctoral			
		approximates the	dental			
		factual work	education			

		setting where health care providers interact with patients.				
Assessing professional competence by using occupational judgment tests derived from job analysis questionnaires Legree et al (2009)	Occupational Judgment Tests (OJTs) administered to 302 soldiers from infantry, artillery, vehicle, mechanic and medic	Job knowledge is highly correlated with occupational performance Job analysis questionnaires can be converted to judgment tests that measure individual differences in occupational expertise.	Conventional measures of job knowledge are time consuming and expensive to develop Are OJTs adequate as measures of indices of occupational competence? Professional competence and technical expertise can be measured by analysis response patterns on these job analysis questionnaires	OJTs used test administration time very efficiently (3-4 mins) JOT consensus based scores correlated with measures of job knowledge, cognitive aptitude and career attitudes. OJT method can provide valid measures of job competence for many occupations OJT performance uses a measure of occupational knowledge that is largely acquired through professional experience	Strengths A novel empirical study as it uses quantitative (rather than qualitative) methods such as factor analysis and multiple regression to determine that competence can be measured using algorithms and indices Weakness Occupational expertise is not the same as professional competence/competency Experiences of soldiers in the Army does not necessarily translate to experiences of civilian professional workers	Challenges the notion that professional competence cannot be measured Provides an alternative assessment strategy to assessing professional competence i.e. based on valid and reliable measurement (test)
Professional accreditation of Conservator-Restorers	UK Institute for Conservation of Historic and Artistic work (UKIC), Institute for Paper	Adopted the principles of NVQ to develop PACR professional standards	Initial discussions with Conservation Forum	In addition to higher education or other training, typically 3-5 years varied experience was required to meet	Strengths Novel empirical study that adopts NVQ principles to construct professional standards	Developing a professional assessment system which involves a

<p>(PACR): Developing a competence- based professional assessment system Lester (2000)</p>	<p>Conservation (IPC), Society of Archivists – joint accreditation group Museums and Galleries commission and Historic Scotland</p>	<p>(including professionalism) Professional accreditation is given when trainees are deemed fit or competent to practice Competent practice is represented by industry-devised occupational standards. In order to assess professional competence it has to be holistic rather than piecemeal</p>	<p>professional associations – possible scheme outline shared with three subscribing bodies Further refined through trailing with 13 volunteer candidates and a series of focus groups with 80 practitioners, related professionals and representatives of client organisations Assessment trials with candidates whom made a detailed application in accordance with professional</p>	<p>standard set for accreditation In the finalised scheme (NCCR 1999) intending candidates are advised to attend an accreditation workshop and identify a mentor to assist them prepare for assessment Assessor training, feedback and updating is required A single, well prepared visit is sufficient to examine enough evidence to made a decision and gain an adequate picture of the candidates understanding, practical knowledge and awareness of professional issues Interpretation of standards and quality of recording varied between assessors, suggesting that further training and sharing of practice were needed</p>	<p>(96.8% NVQs are between Levels 1-3, QCA 1999 p.9) – Hence, the study is grounded in practice rather than academic work An evidence based assessment A range of social actors are involved in making judgments about competence not just the assessor who does the site visit Weaknesses Occupational standards are used to frame professional standards – “standards expected in employment” – not necessarily professional standards – issues in applying these standards to professional work Not an accounting study</p>	<p>range of social actors and is evidence based Wide range of evidence - not just observation</p>
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			standards		
			Assessors drawn from experienced members of the profession – one day briefing before carrying out assessment tasks – reviewed portfolios and then asked candidates about principles and issues over two visits	Examining knowledge early on in the practitioner’s early career seems to have little relevance to the ability to practice	
				Evidence based assessment - short visits, discussions with managers, relevant colleagues, candidates’ studio, work and documentation.	
				Assessment records were completed on the day and examined by the assessment panel not involved in the visit on the day	

Table 5. Empirical studies in which evidence is used to assess competence/competency

These studies show that effective assessment activities achieve high levels of validity, sufficiency, reliability, equity, and transparency. A mix of different assessment activities within the assessment environment is often adopted to assess professional competency. Assessment includes measurement of the professional competence achieved through learning and development.

The purpose of professional accounting assessment is to gather evidence that the appropriate level of professional competency has been achieved to gain membership status as a professional accountant. IES 6 states that the awarding of membership on this basis must be based on ‘verifiable evidence.’

2.4.2 Verifiable evidence - Professional Accounting Assessment 2015

The revision of IES 6 means that competence and capability in professional accounting competency assessment must now be assessed using *verifiable evidence*.

When reviewing the use of verifiable evidence in other professions such as education (Knight and Yorke, 2003), medicine (Carraccio et al, 2002), dentistry (Amyot-Gadbury et al, 2014), health sciences (Young, 1999) nurse education (Brown and McCartney, 1995) and conservation (Lester, 2001) we see evidence includes;

- Annotated photos, video clips
- Instructional resources
- Laboratory practical
- Letters of support/testimony from someone in the workplace
- Impact statements of an innovative or inspiring action in the workplace
- Evidence of an award from work
- Formal feedback e.g. appraisal report
- Documentation in participation of a professional association event
- Feedback from critical friend/mentor/colleagues
- Endorsed performance management agreement e.g. professional development plan
- Online of professional discussions – group interactions
- Professional conversation recordings

The social construction of evidence in these different professional assessment environments demonstrates that evidence has differing accepted definitions and meanings in different professional contexts. However, Davies et al (2000) suggest evidence is the means of proving an unknown fact, support for a belief, use of testimonies and witness.

Verificationism as a concept has its roots in logical positivism. This is the notion being that a proposition only has cognitive meaning, if it can be proven to be true or false. Otto Neurath, Hans Hahn and Rudolf Carnap were members of the so called Vienna Circle in early twentieth century, who were strong advocates of this theory. Other contemporaries such as Hans Reichenbach of the Berlin circle also strongly advocated the theory in 1920s and early 1930s. The theory proposes that evaluative judgment (such as assessment decisions based on professional judgment) is deemed as “cognitively meaningless “(Ayer 1946).

However, theorists such as Hempel (1950) and Hanson (1958) explain that observations are never neutral and that in order to interpret and make meaning from them, theory is often applied. These views are much aligned to the contemporary model of scientific inquiry that is post positivism. Post positivists recognise the influence that historical context, beliefs, values, theories can influence what is being observed. Williamson (2002) suggests that evidence consists of the totality of propositions that one knows. Conee and Feldman (2004) suggest one’s evidence is made up of sensory, mental states. The concept of evidence is very much linked with justification. Therefore, evidence is that which justifies belief. One's intuitions about the evidence that is available to an individual in a hypothetical scenario will shape one's views about what the individual would be justified in believing in that scenario. They suggest that regardless of how the evidence has been construed, verifiable evidence can be independently observed and verified and there is broad consensus as to its contents, even if interpretation of it is contested. Therefore, the underlying principle of verifiable evidence is that it should be capable of being corroborated.

IAESB suggests that the use of verifiable evidence will increase the confidence of stakeholders that aspiring professional accountants have achieved the appropriate level of professional competence by the end of IPD.” IES 6 (2012), Para. 10, makes reference to a range of stakeholders i.e. public, employers and client, as third parties whose expectations of competence must be met. IFAC suggest that basing the assessment of professional competence on verifiable evidence may satisfy the needs

of third parties who oversee or regulate an IFAC member body. However, the “appropriate level” by which competency is deemed to have been achieved is in satisfying third parties is less clear.

IES 2 articulates three different proficiency levels for competency assessment of aspiring professional accountant; foundation, intermediate and advanced. IFAC explain that these proficiency levels are aligned with learning outcomes attached to 11 different competence areas related to; professional values, ethics, and attitudes that includes ethical principles as well as professional scepticism and professional judgment.

Chartered Professional Accounting (CPA, 2012) applies to non-UK English speaking countries. CPA competency requirements explain the three proficiency levels stipulated by IES 2 in the following terms;

Level C (Foundation):

“To achieve competence at a C level, candidates must demonstrate retrieval and comprehension skills and be able to explain, describe, and demonstrate knowledge that is low to moderate in complexity for a routine situation.”

Level B (Intermediate):

“This level of proficiency incorporates level C proficiency. To achieve competence at a B level, candidates must be able to demonstrate knowledge, analyse problems, and draw logical conclusions in routine situations that have low to moderate complexity. Candidates must be able to perform a preliminary analysis of an issue, but the work will require the involvements of more senior professionals to review the analysis or provide the necessary guidance before the candidates are able to complete the work.”

Level A (Advanced):

“This level of proficiency incorporates both level C and level B proficiencies. To achieve competence at an A level, candidates must be able to demonstrate knowledge, analyse problems in sufficient depth and draw conclusions in routine situations that have low to moderate complexity. In cases of non-routine and moderate complexity, candidates are expected to be able to see some, but not all, of the interrelationships. In these situations, candidates will require some guidance from a more experienced professional to complete the task.”

(Chartered Professional Accountant Competency Map, 2012, p.10)

However, in UK, there is no such universal clarification of the proficiency levels to be adopted by UK PABs. CIMA links proficiency levels to occupational roles e.g. Foundation (start/entry role), Advanced (senior manager). ACCA map competencies with suggested activities, but again not with specific learning outcomes or proficiency levels. ICAS and ICAEW provide a list of task related- “Can the student do? And, “How were you able to” questions, which again are task oriented, adopt a broadly functional analysis approach (although aspiring professional accountants are required to submit a reflective statement) and not seemingly mapped or aligned with proficiency levels. CIPFA do not map ‘statements of expertise’ to proficiency levels. AAT’s seven work experience competencies are not mapped to proficiency levels.

2.4.3 Constructive alignment of competencies and work based performance assessment

In order to make judgments regarding successful accomplishment of performance in a practical experience context, it is important that assessment requirements relating to practical experience are clear.

In order to address the issue that mapping of proficiency levels against competencies is not done across all practical experience assessment, principles of constructive alignment (Biggs, 1999) have been applied to develop a standards framework. This maps different levels of performance with

standards and learning outcomes as a basis on which the technology-mediated conceptual assessment model following empirical analysis of interview data will be developed.

In a research study conducted by medical education professionals entitled, “Evaluation Challenges in the Era of Outcomes based Education”, Norcini et al (2008) explain that one of the big drivers in the way in which clinical trainees are assessed is technology. They go on to propose a three dimensional framework for structuring an assessment system. The first dimension is competencies framed by the second dimension; Millers Pyramid (1990) or a variation, The Cambridge model which is specific to medical context and practice. The final dimension, Assessment of progression uses The Dreyfus Model (novice, advanced beginner, competence, proficiency and expertise) in order to recognise the developmental sequence when designing an assessment system.

It is these principles and models that have been adapted in order to produce a standards framework. This is to be an integral part of the conceptual model of technology-mediated professional competency assessment that operationalises the theoretical framework developed at the end of this chapter.

Millers Pyramid	Bloom’s Taxonomy	Professional standard requirement	Learning outcomes focus – based on IFAC proficiency levels (IES 2)	Competency dimensions	Assessment of professional socialisation (constructivist, situated & social learning)	Cognitive process and complexity of Tasks
Does	Synthesis & Evaluation	Advanced	Selecting and integrating principles and theories from different areas of technical competence to	Meta-competencies, technical competence, ethics & reflective practice	Situational analysis – complex problems and issues impacting on organisation and individuals	Meta-cognitive Task outcomes at the advanced level relate to

		<p>manage and to lead projects and work assignments and to make recommendations appropriate to stakeholder needs;</p> <p>☑ Integrating technical competence and professional skills to manage and to lead projects and work assignments;</p> <p>☑ Making judgments on appropriate courses of action drawing on professional values, ethics, and attitudes;</p> <p>☑ Anticipating, consulting appropriately and developing solutions to complex problems and</p>		<p>(1) collaborative, evidenced-based decision-making throughout the consultation process;</p> <p>(2) recognition and valuing of the multiple perspectives of participants in any given situation;</p> <p>(3) acknowledgement of the social construction of knowledge and understanding;</p> <p>(4) identification of elements of new solutions in existing situations;</p> <p>(5) recognition of the interaction between people and the multi-systems of their lives;</p>	<p>work situations that are characterised by high levels of ambiguity, complexity and uncertainty.</p> <p>In addition to those verbs used at the Foundation and Intermediate levels, indicative verbs used to construct learning outcomes typically include: act, advise, anticipate, appraise, construct, design, develop, evaluate,</p>
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			<p>issues; and</p> <p>☑ Consistently presenting and explaining relevant information in a persuasive manner to a wide-range of stakeholders</p> <p>Learning outcomes at the advanced level relate to work situations that are characterised by high levels of ambiguity, complexity and uncertainty.</p>		<p>(6) appreciation of the dynamic nature of human performance and</p> <p>(7) systematic application of a problem analysis procedure.</p>	<p>integrate, lead, manage, negotiate, plan, recommend.</p>
Shows how	Application, Analysis	Intermediate	<p>☑ Independently applying, comparing and analysing underlying principles and theories from relevant areas of technical competence to</p>	<p>Technical competence, ethics</p>	<p>Inquiry based learning</p> <p>Problematize to recognise gaps in knowledge through the failure of recognising a particular aspect</p>	<p>Meta-cognitive</p> <p>Task outcomes relate to work situations that are characterized by moderate</p>

			<p>complete work assignments and make decisions;</p> <p>☐ Combining technical competence and professional skills to complete work assignments;</p> <p>☐ Applying professional values, ethics, and attitudes to work assignments;</p>		<p>of a situation demand (Hiebert et al., 1996).</p> <p>In order to complete this assessment, aspiring accountant needs to have content knowledge.</p> <p>.</p>	<p>levels of ambiguity, complexity and uncertainty. In addition to those verbs used at the Foundation level, indicative verbs used to construct learning outcomes typically include: analyse, apply, calculate, classify, compare, consider, prepare, prioritize, produce, select.</p>
Knows how	Comprehension (Understanding of knowledge)	Foundation	As below	As below	As below	As below
Know	Knowledge	Foundation	Content knowledge	Technical competence,	Functional content testing	Cognitive

			<p>Defining, explaining, summarizing, and interpreting the underlying principles and theories of relevant areas of technical competence to complete tasks while working under appropriate supervision;</p> <p>☐ Performing assigned tasks by using the appropriate professional skills;</p> <p>☐ Recognizing the importance of professional values, ethics, and attitudes in performing assigned tasks;</p> <p>☐ Solving problems, and referring complex</p>	Ethics	<p>Knowledge testing –measure content knowledge</p> <p>Learning is made relevant to training context</p> <p>Cognitive system underlying this approach emphasizes the interaction of three components:</p> <p>(1) a knowledge base (i.e., long term memory) of what the individual knows,</p> <p>(2) processing skills including language, problem-solving, and learning strategies, and</p> <p>(3) information displays that present</p>	<p>Task outcomes relate to work situations that are characterised by low levels of ambiguity, complexity and uncertainty.</p> <p>Indicative verbs used to construct learning outcomes typically include: define, describe, distinguish, explain, identify, illustrate, interpret, list, perform, recognize, solve, state, summarise.</p>
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			tasks or problems to supervisors or those with specialized expertise; and ☐ Providing information and explaining ideas in a clear manner, using oral and written communications.		information	
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Table 6. Mapping of performance standards to IPD learning requirements

The following diagram put the tabular mapping into a diagrammatic representation.

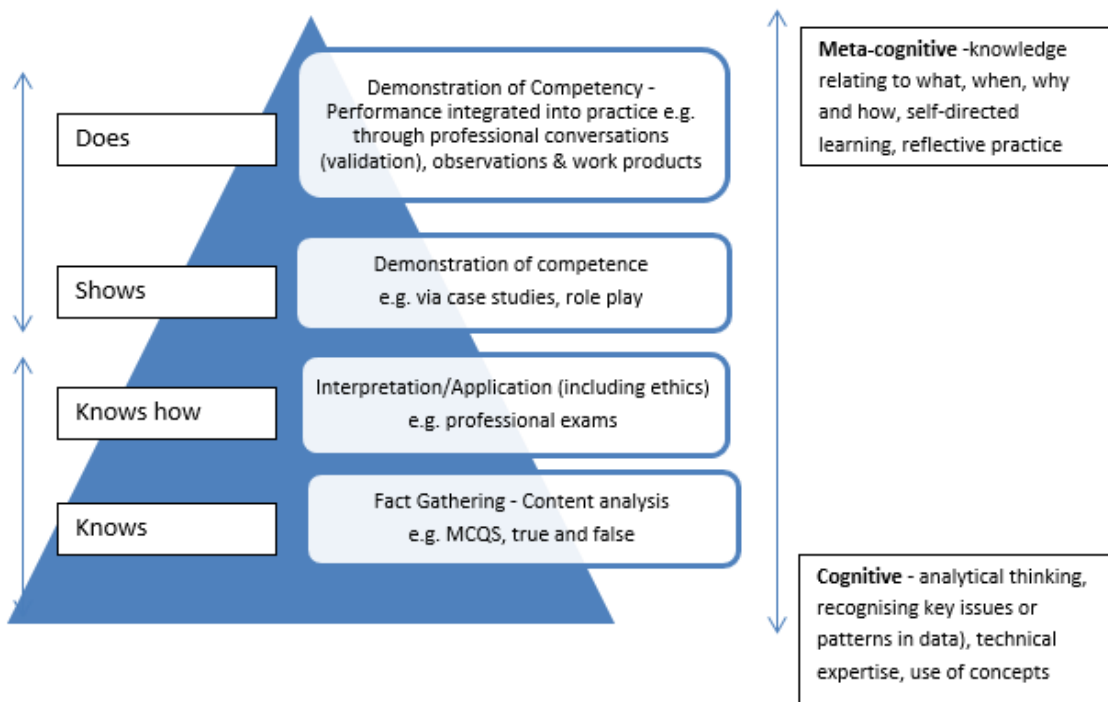


Fig. 8 A constructive alignment of IPD assessment

Given that Jessup (1991) informs us that competency assessment involves judgment, it is very important to review the literature in this area. This is particularly pertinent in exploring professional competency a technology-mediated assessment environment where judgments of performance may be made by human scoring or the technology itself.

2.4.4. Human scoring (professional judgment and expertise)

The process of human scoring can be looked at as a form of expert judgment (Bejar, Williamson and Mislevy, 2006, p.49). A review of UK vocational qualifications in 1970's resulted in the system of NVQs. Initially the 'NVQ' label was envisaged as a kite-mark for qualifications that reflected industry need. However, it was quickly restricted to qualifications that were constructed to a standard set of design rules based around a specification of competence (Training Agency, 1988). Units and elements of competence were framed around an occupation in the form of functional analysis and a hierarchy of detailed activities. Human scoring within the context of vocational education training was first applied in National Vocational Qualifications (NVQs). Despite theorists (Elliott 1991, Sims & Golden 1998, Hillier 1999, Lester 2001) suggesting that NVQs are not appropriate for professional level assessment, it is appropriate to review a few empirical cases relating to NVQ assessment to highlight some of the issues associated with human scoring albeit within the context of vocational training education.

Study title	Participants	Main theories	Method & scope	Results & Recommendation	Strengths & weakness	In relation to my own study
The Assessment of NVQs (1996)	6 different assessment sites – 7 assessors, 17 assessment	Experiential/situated learning theories Judgements are	NVQs are a workplace assessment Observation	Assessors at the same centres generally agreed with one another about assessment decisions	Strengths NVQ is pioneering in the context of	The outcomes as expected are specific to NVQs which are lower level standards

<p>ESRC funded grant (Greatorex)</p>	<p>centre managers and a number of trainees (construction, engineering and business administration)</p>	<p>affected by a range of contextual factors</p>	<p>Questionnaire responses from 1,233 assessors</p>	<p>whilst being observed by researchers – Assessors did not feel that they could disagree in front of the researchers</p> <p>Writing specific performance criteria (PCs) did not guarantee reliability – 35% of assessors preferred to use occupational /industry/organisational standards – conflicts of interest due to financial incentives for trainees to pass</p> <p>Specifying competence too tightly prevents it from matching practice across a diverse range of employment.</p> <p>Mismatch between NVQ system and</p>	<p>competence assessment (an “old” study but significant and relevant)</p> <p>This study is a critical evaluation of the framework and standards of NVQs</p> <p>Weaknesses</p> <p>Based on Level 2 qualification – not professional level</p> <p>There are no accounting subject areas that are reviewed</p>	<p>than those of my study</p> <p>However, assessment is evidence based and does require use of judgments by assessors</p> <p>Importantly, “organisational professionalism” (Evetts, 2013) measures are used as standards rather than those prescribed by NVCQ were found to be adopted – this is a significant consideration in my study</p> <p>Eraut proposes that the portfolio is a convenient way of evidencing competence and recording judgments</p>
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				<p>national training policy – funding does not match training requirements – off-the-job training was common</p> <p>The view that NVQs are valid and reliable cannot be sustained – does not indicate achievement of nationally consistent explicit standards (Eraut et al, 1996)</p> <p>The greater the knowledge and expertise of the assessor, the more likely it was that they believed that wrong decisions were being made (candidates being passed as competent who are not)</p>		
How can Assessors' judgments be	136 OCR NVQ centres Seaside	NVQ standards are developed using functional analysis –	Survey Case studies involving	Assessors believed standardisation was achieved through	Strengths Evidence based	Evidence based assessment that uses assessor

<p>standardised?</p> <p>Greatorex and Shannon (2003)</p>	<p>College Urban College were sent an initial survey</p> <p>Two case studies based on two centres; Seaside and Urban</p>	<p>used to develop a profile of an occupation rather than qualification</p> <p>Assessors make holistic decisions about competence of candidates (Wolf, 1995)</p> <p>Over 1,000 separate assessment judgments to be made based on evidence (Eraut et al, 1996)</p>	<p>interviews with assessors and candidates</p> <p>4 assessors & 4 candidates from Seaside College</p> <p>6 assessors & 6 candidates from Urban College</p> <p>30 min semi-structured telephone interviews with assessors and IVs</p> <p>Assessors reviewed 4 portfolios of candidates that they did not know before the centre visit</p> <p>Assessor's</p>	<p>standardising assessment procedure – however, during standardisation exercises assessors found their judgments were not always consistent</p> <p>Inter-rater reliability (consistency of judgements by assessors) is a concept of limited value in NVQ context where candidates undertake different tasks – Internal assessment by an assessor who knows the candidate is meant to be more valid (due to extra knowledge), yet this reduces any measure of inter-rater reliability</p>	<p>assessment which uses national standards of competence (not Level 6 or professional level)</p> <p>Weaknesses</p> <p>2003 study on Retail Level 2 assessment rather than accounting</p> <p>NVQ is a functional analysis competence assessment not holistic</p>	<p>judgement to make assessment decision regarding competence</p> <p>Some recommendations e.g. assessment community, standardising tasks will be incorporated into the conceptual model developed</p>
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			<p>reviewed competence evidence already submitted for NVQ award but their assessment decisions did not impact on actual assessment decision</p> <p>Standardisation exercises at each centre following interviews led by OCR staff</p>	<p>Evidence is collected for NVQ which is not part of the occupation of the candidate – suggested to restrict types of evidence that can be submitted & candidates should adopt the same/similar tasks and all evidence should be assessed by external assessors</p> <p>Assessors and IVs should work together within a network to form a community of practice</p> <p>Professional conversations – assessor and candidate meet as equals - oral presentation of the evidence submitted by the candidate</p>	
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				(Bowen-Clewley, 2003) Work based portfolio assessment (WPA)		
Adapted Fresno test of competence in Evidence-based Practice (McCluskey, 2009)	114 clinical therapist's pre-test and 106 clinical therapists post test	Competence is skills and knowledge Competence and changes in can be measured using appropriate assessment instruments AFT can be used to measure competence Grading matrix is used by assessors (raters who are evidence based practice (EBP) experts and health educators) to score competence using	Development and pilot testing of AFT and scoring guidelines Inter-rater reliability testing- this is testing of the ability of the test to produce consistent scores/agreement when test is scored by different assessors/raters Internal consistency testing	Based on a random sample of n=20 from p=220 submissions, AFT is a simple and reliable tool for assessing knowledge and skills in the domains of EBP Cronbach's Alpha is used to test for inter-rater reliability – study deemed that AFT is reliable AFT instrument itself is made up of questions relating to clinical scenarios, forcing the student to demonstrate that they can do what the 2-day workshop has	Strengths AFT is an instrument designed to measure competence It is a reliable human scoring instrument - agreement between raters was excellent for the total AFT scores AFT is being used post work-place based training to measure	Human scoring instrument that assesses competence The use of experts in clinical care as well as being health educators is an approach to be adopted for the attributes of the assessors within the assessment delivery model Human scoring grid was used and inter-rater reliability was demonstrated Consider how the

		AFT	Evaluation of responsiveness to change	<p>“taught” them to do</p> <p>There was a significant change in the competence of “novice” professionals deemed to have scored 50% or less pre-test</p>	<p>change in competence in EBP</p> <p>Weaknesses</p> <p>It is not an accounting study</p> <p>Assumption that competence is demonstrated by answering questions relating to what you know or would do rather than what you can do</p> <p>Practitioners acquired more knowledge</p>	<p>reliability of human scoring by assessors within evidence accumulation stage can be measured for reliability</p>
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					(within the context of the study – competence). However, this did not impact in terms of increased usage of these skills in work	
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Table 7. Empirical studies relating to evidence based competency assessment where human judgement is applied to make assessment decisions

It is clear from a review of the studies that there are strengths and weaknesses associated with using human judgment and/or using technology to make judgments of performance within the context of competency assessment. The most obvious limitation of human scoring is the inter-reliability of judgments made against the consistent judgments that would be made by technology. However, it is clear from a review of these studies that valid instruments e.g. AFT adopting human scoring for use in competence assessment have been successfully used.

However, the final section of this literature review evaluates theories of technologies which is important, given the theoretical proposition to be “tested” and phenomenon to be explored.

2.5 PART FIVE – Technology Theories

The word “technology” stems from the Greek word *techné*, which designates “skill,” “art,” and “craft,” a mode of doing or making. *Techné* in the original Greek usage referred to the skill or power

of doing/making as well as that which is performed, produced, or fabricated—in other words, *techné* as designating both art and artifice (Heidegger, 1953). He goes on to explain that *Techné* is said to have opposite meaning to *physis* (nature), which is ‘arising out of something of itself.’ This therefore implies *Techné* is a mediation by an external agent (reason) to an object in order to bring about change in it.

Hence, contemporary theories of technology such as mediation theory, activity theory and Structuration theory inform us that technology reveals and frames the world. The role of technology is as an external object, but one with its own intentionality and identity. Technologies are used in a range of different contexts to perform actions and mediate interactions. Weller (2011) notes, new technologies have the potential to reshape all scholarly areas.

“There is no doubt that professional learning in all disciplines is changing fast, not only in answer to market pressures and regulatory concerns, but also in response to new technologies and the pedagogies that are being constructed around them” (Wenger 1998; Maharg 2006; Barnett 2000; Eraut 1994; Schaffer 2004) cited Maharg (2007, para.55).

Nicol (2008) explains that technology can be used to support assessment delivery and stages in the assessment cycle. He was project director for the JISC funded project, “Re-engineering assessment practices in Scottish Higher Education (REAP) which ended in July 2007. The aim of the project was to “disseminate improved models of assessment supported by e-learning technologies across the Scottish HE sector.” (REAP final report, JISC website).

Nicol (2008) explains that technology enables/does the following;

- 1) Presentation of assessment tasks and flexibility in the timing of assessments
- 2) Enhances opportunities for self-regulation through enabling students to take on more control over their learning and assessment
- 3) Makes it easier to monitor students’ progress through measures such as adaptive testing

- 4) Supports a wide range of formats; wikis, blogs, second life (virtual worlds) and hence it is possible to assess and support a wider range of knowledge, skills and attitudes than in the past
- 5) Computer-supported assessment also makes it possible to enrich and make assessment tasks more authentic, for example, incorporating multimedia presentations and to enable better alignment of tests to student's levels of understanding (Conole and Warburton, 2005).
- 6) Technology -mediated learning environments are valuable for assessment purposes as they enable tutors to present milestones for complex tasks with timed release and alerts (e.g. project work). In addition, technologies can be used to monitor student activity and achievement and to take action to support those students who fall behind or are in difficulty.
- 7) Technology can play a role in supporting the assessment (measurement) of knowledge, skills and attitudes and the interpretation of assessment data.
- 8) Technology can help increase the validity of assessment tasks. It can be used to chart students' developing understanding. It can help support the development of meta-cognitive capabilities important for the transfer of learning to new problems and context.
- 9) Some technology-enhanced assessments also involve the use of sophisticated modelling and simulation environments to capture complex problem-solving and decision-making.

Thus, the capabilities of technology for use in assessment are wide and varied. It is of course the case that in order for technologies to have value in use, the capabilities must match the needs and expectation of the user. The successful adoption of information and communication technology to enhance learning can be very challenging, requiring a complex blend of technological, pedagogical and organizational components, which may at times require the resolution of contradictory demands and conflicting needs (McPherson and Baptista-Nunes, 2008, p.1).

Below are a few empirical studies in which technology has been successfully adopted to enhance assessment of work based learning.

Study title	Subjects	Main theories	Method & scope	Results	Strengths & weakness	In relation to my own study
Integrating Employers in effective support for student work based learning Williams et al (2010) University of Gloucestershire and Aston University	Staff, students, employers to create employability focused assessments using employers as assessors	WBL is defined as encompassing a wide spectrum of activity concerned with student learning involving linkages with 'the workplace'. The HEI places students in the workplace for project work that is integrated with the institution-based delivery; b) The students undertake a period of work with an employer, at an appropriate level and with appropriate briefing and support from their HEI; c) The HEI	Design-Based Research (mixed methods, multiple iterations, collaborative in nature, evolving design principles and practical impact on practice) Combines existing research on assessment with grounded data derived from local stakeholders Development of an assessment model which embeds	Model is effective in supporting the design of an authentic approach and targeted affordances can support the alignment of specific technologies with a particular pedagogic design Perspectives of academics, employers and students involved with the assessment were evaluated using semi-structured	Strengths 14 different iterations to develop the model in collaboration with social actors weaknesses Not based on accounting – a general work integrated assessment Focus on affordances as functional – what does it provide?	Assessment model is “simulation” of work Alignment of assessment model with technologies - consider that affordance extends beyond technology as mediating tools but also spaces for example, self-reflection and peer review

		collaborates with the student's current employer for ways to build WBL practices into the workplace.	employability directly into the curriculum Digital technologies have been aligned with the model – where key affordances are highlighted in the context of the model	interviews Tech Trumps -		
“Transactional Learning Environment” Diploma in Legal Practice (DLP) at Glasgow Graduate School of Law 200-2006 Maharg (2007) Ardcalloch and SIMPLE	280,300 students entered the course in 2006/7 150 practitioner-tutors, with four Visiting Professors. It is designed and evaluated by three full-time academic staff with a complement of administrative and IT staff. Approximately	“As Lucy Suchmann puts it, describing ethnomethodological approaches to the analysis of learning, "[t]he notion that we act in response to an objectively given social world is replaced by the assumption that our everyday social practices render the world publicly available and mutually intelligible" (1987, p.57).	Students on the module engaged in different assessment activities. Students were employees of firms who dealt with each other on transactions in a simulated professional work environment. The Simulated environment was made up of	Powerful learning tool Increased positive student feedback Success led to use in further use Strathclyde Law School, University of New Hampshire (USA) Developed professional skills of	Strengths Scalable project that was used in a professional learning context Weaknesses Required significant resource Implementation issues Hard to measure impact on performance	Strengths Assessment environment is a technology-mediated, simulated professional work environment Clear to see what students can do in terms of activities Work was marked by academics – so

	<p>280300 students will entered the course in 2006/7, arriving largely from either Glasgow or Strathclyde Law Schools, but also including a small number from other law schools in Scotland, e.g. Aberdeen, Edinburgh, Glasgow Caledonian</p>	<p>Transactional learning is active learning</p> <p>Transactional learning of necessity draws upon ethical learning and professional standards.</p>	<p>virtual offices, collaborative learning tools - task organiser, calendar, firm minutes, confidential logs, discussion forums and alerting services.</p> <p>The simulation space can also be used as a representational space for the micro-detail of professional practice</p> <p>Simulation site learners in a professional context, where there are aggregates of transactions, perhaps multiple solution paths, and where learners" work is, as it will be in the workplace, distributed between tools, colleagues,</p>	<p>students and they generally gained 10% in the closed book exam</p> <p>Engaged students to develop their professionalism</p>		<p>standardisation implicit</p> <p>Academics are practioner-tutors</p> <p>Weaknesses</p> <p>Not an accounting study</p> <p>Students did treat it as "not real life" – making mistakes and errors that they dare not in practice e.g. sending correspondence with mistakes</p> <p>No specific reference made to standards or issues with outputs. No details on verifiability - although assumed run as a University module – that usual practice applies</p>
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			resources, anticipated and unanticipated problems and individual constructions of knowledge and experience.			
Assessment Careers: enhancing learning pathways through assessment Institute of Education (London) August 2014	Five case studies will build upon previous initiatives and planned institutional change to explore innovations such as use of ipsative feedback, assessment templates, multi-stage assessment and assessment career audits in an efficient and sustainable way across the institution. Phase 1- Review of current	Assessment should be based on learners' assessment career – learning journey over multi- assessments including ipsative feedback (feedback based on comparison with previous performance) The use of technologies enables efficiencies Dialogic feedback would include self- assessment and peer assessment in addition to feedback from tutors.	This project aims to reconceptualise the institution's assessment process from a perspective of an assessment career, that is taking a longitudinal view of assessment by including a learners' past experiences of assessment as well as current trajectories. The project will scale up innovation and share staff expertise through the linking up	Shifting from teacher-centric to student centric feedback Viewing assessment at programme level rather than module level Mapping programme learning outcomes and relevant assessment criteria for all sessions might be a way forward. Assessment literacy should not be assumed	Strengths Multi-assessment approaches Ipsative assessment, assessment career approach Learners engage with (formative) assessment criteria and decide what they need feedback on Weaknesses Is not an accounting study? Focuses on feedback rather than tasks and appropriateness of assessment	Multi- assessments and multi-level assessments and ipsative feedback are considered features of the proposed model in order to promote a holistic approach to competency assessment rather than atomised approach 'Our own assessment systems seem to focus more and more on summative forms as you progress closer to

	<p>practice, consolidation of assessment career approach</p> <p>Phase 2: Piloting innovations and evaluation</p> <p>Phase 3: Supporting staff, scaling up and sustaining the Assessment Career approach</p>		<p>modular assessments and embedding the assessment career approach into institutional structures and procedures. The processes and outputs of the project will be packaged as deliverables to the HE sector.</p>	<p>even at Masters level</p> <p>Feedback analysis tool using technologies - various assignment feedback responses sheets in MS Word, e- submission and e-feedback using Moodle.</p>	<p>tasks r criteria itself</p>	<p>employment - raising the intriguing notion, do we approach assessment the wrong way round? Should we actually be focusing on forms of assessment that are closer to those found in employment, i.e. formative and authentic, as our students get nearer and nearer to the beginning of their professional careers. Our current assessment practices seem to be aimed at producing an overall mark that summarises how well a student has performed over the past 3 or 4 years, a single benchmark that it seems is increasingly</p>
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						meaningless to employers looking for attributes which will allow them to distinguish individuals from the crowd" (IOE April 2012)
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Table 8. Empirical studies in which technology has been successfully adopted for work based learning assessment

It is worth noting, that in the Law profession, the use of technology in the assessment of professional competencies of trainee lawyers has revolutionised the training of trainee solicitors across the world. The SIMPLE project referred to in the table above, has been developed into the David Webster Program at University of New Hampshire, United States of America. This program is a two-year practicum in which trainees receive comprehensive training in simulated, clinical and externship settings. On passing the two-year programme (subject to ethics character and professional fitness requirements), they are certified to have passed the bar. "Trainees create portfolios of written work and videos of oral performances that are viewed by their bar examiners after each semester. In short, they do the things law students need to do in order to become client-ready" (Daniel Webster scholar honors program, University of New Hampshire website, 2015)

In England, Professor Paul Maharg (who project led SIMPLE), developed Qualifying Lawyers Transfer Scheme (QLTS) in 2010, which uses multiple choice testing (MCT), objective structured clinical exam (OSCE) and legal skills test to assess qualified lawyers. Qualified lawyers are those successfully completed an undergraduate law degree and comply with the law profession's ethical requirements. QLTS is taken by qualified lawyers in England and Wales to qualify as a solicitor.

It is clear that technology has been used effectively in other professional disciplines to develop and assess the competency of aspiring professionals. It is used as a functional tool of assessment to perform actions associated with assessment across different professional domains.

Technology enables communication and representation of meaning through social processes, the creation of artefacts and cultural interaction. It has enabled the emergence of social networks in which humans and machines are engaged in activity. Within the context of professional competency assessment, this mediation can enable “real virtuality” (Castells, 1996), through which the experience of competency development and assessment has the potential to be transformed. An example of the transformative effect of technology is through the use of simulated professional environment as seen in QLTS in professional competency assessment in the legal profession.

To understand the role of technology within interactions in the professional competency assessment environment, one has to understand mediation theory.

2.5.1 Mediation theory

Mediation theory suggests that certain aspects of human’s perceptions or interpretations are shaped by mediating tools. As such, technologies mediate perception and action and how can facilitate or constrain performance of certain actions.

Influential analysis of post-phenemological analysis of technologies by Don Ihde (1979) evaluates how technology mediates humans’ relations to the world. Human experience is shaped by mediating tools. Mediating tools have dual purpose; they shape human interpretations of the world but they also shape humans and their interactions in the world.

Human ⇔ Mediating tools ⇔ World (Don Ihde, 1979)

Artefacts that we use influence how things in the world are revealed. Ihde’s theory is based on interactions between humans and artefacts through actual use.

Vygotsky (1978) writes about the “Mediational Triangle “, in which humans in inquiry and the subject matter of inquiry are thought of as directly related but also indirectly related via an artefact/tool.

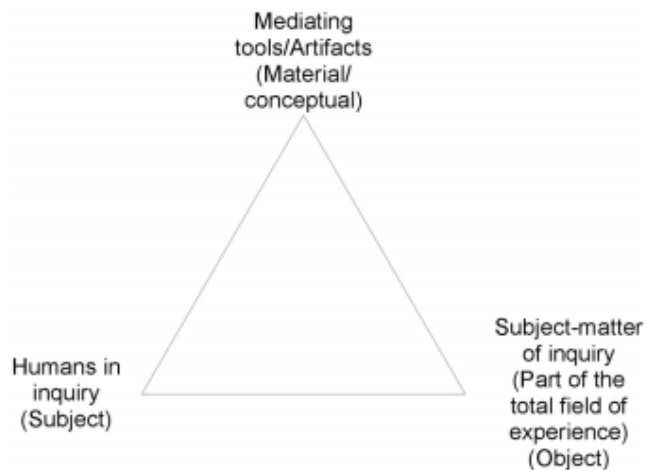


Fig. 9 Vygotsky (1978) Mediation Triangle

Using tools makes it possible to act in more powerful and functional ways and enhances and alter human development (Bernhard, 2007)

Hence, technology can be conceptualised as an artefact and more significantly as a mediating tool which is used by humans during interactions with their everyday lifeworld. In *What Things Do*, Peter-Paul Verbeek (2000) states “the concept of mediation helps to show that technologies actively shape the character of human-world relations. Human contact with reality is always mediated, and technologies offer one possible form of mediation.” (pg. 11)

Technology does not just mirror reality but actually shapes the relationship between humans and their world. “Technology is an outcome of design and design is under the aegis of human intentionality and imagination.” (Kaptelinin and Nardi, (2012), pg15). For Dilthey (1883) the triad of "life, expression, and understanding" defines the field of the human sciences. He explains that knowledge of the life of a person is not knowledge of causal connections but rather a network of

meanings. He goes on to explain that we gain understanding about life not through introspection or intuition but through understanding objectifications of inner life.

A modernist view of mediation is that the subject (user) and object are two different fixed things that have separate identities and existence. It is therefore the role of technology to mediate how the object can be present to the subject. (Verbeek, 2007)

Contemporary theories of the mediating relationships between humans and technologies are post-modernist. A post-modern perspective determines the role of technology as a one beyond an instrumentalist way to establish to create contact between humans and reality in a way that enables a transfer of knowledge. A post-modern view, suggests that reality is co-shaped by the technologies. Technology represents a reality which is interpreted by the user in different contexts by different users. As such technology can be transformative, impacting on the way humans interact with the world as well as what humans learn and know about the world. In mediating an action or interaction artefacts influence how things are revealed to us, influencing perception, interpretation and action.

Done Ihde (1979) regards mediated perception as the intentional relationship between humans and their world as mediated by technology;

Human \Leftrightarrow Technology \Leftrightarrow World

“Technologies are nearly and simultaneously social. They are conduits of essentially social knowledge and communicative patterns, such as those that are characteristic of learning and its assessment.” (Cope et al, 2011, p.87).

It is also important to note that technologies can also create disintermediation. This can occur where, for example, rather than aspiring professional accountants accessing information sources as part of their professional development via the library, they use online search engines and information portals instead. It is therefore possible, that technology could create disintermediation

in the competency assessment process. In this case, technology could remove the need for any intermediary i.e. human assessors in assessing the professional competency of aspiring professional accountants.

Waltz (2004) suggests we need to give artefacts a voice and “[bring] into account technology in educational analysis” (p.1). Therefore, it is important in problematizing IPD competency assessment, that the role that technology plays within the assessment process i.e. the purposeful activity is considered.

Saadé et al (2011) explain that although the literature on emotion and beliefs is large and growing, the sub-set research area of student’s beliefs towards technology is small. It is important to understand how technology mediates the assessment process and the relationship that it has with those involved in the assessment environment, in order to maximise the value that using technology offers.

2.5.2 Activity Theory

Marx (1954) explains that the thing that defines humans from all other animals is the purpose and intention that human activity is directed towards transformation of the natural world to meet human needs.

Kaptelinin & Nardi (2012), state, “The foundational concept of the theory is human activity which is understood as purposeful, mediated, and transformative interaction between human beings and the world (p.8). The theory is established as a post-cognitivist approach in human-computer-interaction (HCI), which has emerged as a result of the information processing psychology perspective on human interaction with technology (Card et al. 1983). Activity theory maintains that human uses of technology can only be understood in the context of purposeful, mediated and developing interaction between active “subjects” and the world (that is” objects).

Nardi & O'Day (1999) explain that an "information ecology is a system of people, practices, values, and technologies in a particular local environment. In information ecologies, the spotlight is not on technology, but on human activities that are served by technology." (p.49). They explain that ecologies rather than communities recognise the diversity and dynamism of the local environment. Therefore, the assessment environment mediated by technology is conceptualised in this study as "information ecology." Within the information ecology is a collaborative network of accounting professionals who impact on the professional work, education & socialisation of the aspiring professional accountant. It is proposed that information ecology (IPD competency assessment environment) is technology-mediated and that purposeful activities within the information ecology are mediated by technologies.

In order to understand the role that technology plays within the context of undertaking purposeful activities in the information ecology and interactions between subjects (assessors & assessees) and IPD competency assessment, interpretation of the mediating relations is required.

2.5.3 Hermeneutic Relations

Martin Heidegger is a German Philosopher who has written extensively on hermeneutics. Heidegger (1953) states in a 'Dialogue on Language' that, "the term "hermeneutics" was familiar to me from my theology studies. Although it is commonly associated with scholars debating the bible and Christian facticity, he suggests that its roots are in the works of Greek mythology. He explains that expression hermeneutics is "the unified method of engaging, interrogating and explicating facticity." (GA 1156)

Heidegger's specific approach to hermeneutics is to deconstruct common interpretations. He explains that hermeneutics has transformed into a doctrine about the conditions, the objects, the means and the communication and practical application of it. He explains that hermeneutics is "in connection with its original meaning..." (cited, Interpreting Heidegger, Critical Essays (2011) edited

by Daniel O. Dahlstrom). He goes on explain that reality is not static and is dependent on the personal lens through which the person is looking. Meaning is ascribed to what we can see through our personal lens.

Idhe (1979, 1991), Mitcham (1994) and Verbeek (2000, 2005) explain that mediated interactions between humans and everyday life worlds require interpretation. Don Ihde (1979) explains hermeneutic relations in the following terms;

Human \Leftrightarrow (Technology \Leftrightarrow World)

Technology in hermeneutic relations is not transparent. Some kind of interpretation is involved, hence the term hermeneutic. Within hermeneutic relations, experience is transformed by the mediating technology used. Managan (2008) writes, "in hermeneutic relations, the perceptual isomorphism between what we see or experience and how this is shown or represented via the instrument or technology that we have in embodiment relations is gone, and replaced by a fundamentally different kind of 'transparency', requiring a different kind of sensory engagement and yielding very different experiences from embodiment relations" (p.414). Hermeneutic relations suggest that technologies provide representation of reality which needs to be interpreted by humans in order to constitute a perception (Verbeek, 2007). Mediation theory focuses on use of artefacts to mediate interactions within everyday life worlds.

Interestingly, the positivist concept of verifiable evidence as objective is in contrast to the subjective construction of reality and representations of reality that need to be interpreted in evaluating evidence. It is the representations made by the technology that are interpreted to make subjective judgments about whether competency has been achieved or not.

Ihde explains that technologies are embedded within historical and cultural contexts which play roles in determining how humans develop (Rosenberger, 2008). He explains that technology adopts different purposeful activity in different contexts, depending on the user. Thus, the role of

technologies in mediating IPD competency assessment is to some extent determined by the affordance placed on the technology by the user.

2.5.4 Affordances Theory

Gaver (1991) explains that affordances are properties of the world that are compatible with and relevant for peoples' interactions. The underlying principle of affordances theory is the value placed on something based on the perceptions and beliefs of its compatibility by the person seeking to use it. The perceptual psychologist, J.J Gibson (1986) coined the term, explaining that;

“An affordance is neither an objective property nor a subjective property; or it is both if you like. An affordance cuts across the dichotomy of subjective objective and helps us understand its inadequacy. It is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer.”

(p.129)

Technology harbours both actuality and potentiality (Kiran, 2012).

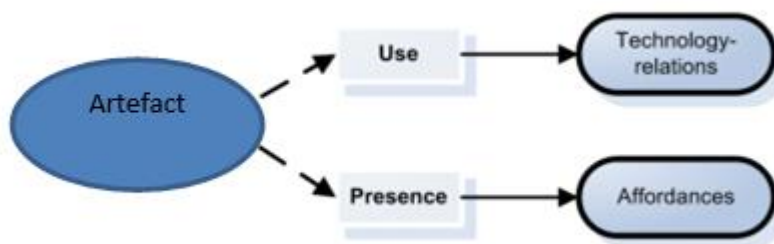


Fig. 10 Mediation of Technology by use (actuality) and technology presence (capability)

There are a range of mediations within an assessment environment that may be actual or may be possible mediations. Actual mediations are grounded in use and give rise to technology-relations. Potential mediation is based on technology presence, which denotes that technology can offer

potential actions through which realised actions can occur. The process of constituting technology-relations and affordances is a process called appropriation (Poole & DeSanctis, 1989).

The technology-relations of users of technology within the assessment environment will be investigated. It is also important to identify and evaluate the affordances placed on technologies by accounting professionals within the information ecology. This helps to interpret perceptions by social actors' of (actual/potential) technology mediations within the assessment environment. Kiran (2012) explains, "Technological shaping of the lifeworld happens in terms of possible technical mediations, not just actual technical mediations" (p.79).

Appropriation of technology occurs when users attribute a specific meaning to the technology. i.e. the intentionality or actuality of technology can be dependent on the user and the specific meanings that they attribute to it. However, Ragoff (1995) explains that appropriation of technology based on affordance that is co-constituted between the user and the technology.

Thus, the fact that affordance is co-constituted between the user and technology, indicates to technologies having their own intentionality. Ihde (2003) refers to the 'multi-stability' of technologies, suggesting that although there is specific intentionality of technologies e.g. a smart phone is enables callers to make calls and use the internet, the intentionality of the user may be different e.g. to use the smartphone as a GPS.

Therefore, intentionality and actuality of use of a technology is dependent on different contextual and mediating variables which will be explored in the thesis. One such mediating variable is technology acceptance.

2.5.5 Technology acceptance model (TAM)

TAM was first introduced by Davis et al (1989). Its introduction heralded two new constructs not provided by existing theory in this field up to that point. The two constructs are; perceived usefulness and perceived ease of use (both linked with user intention and user behaviour). These

constructs can be used to predict an individual’s attitude concerning the use of an application. In addition, TAM did not include subjective norm as a determinant of intention (Chen et al, 2011).

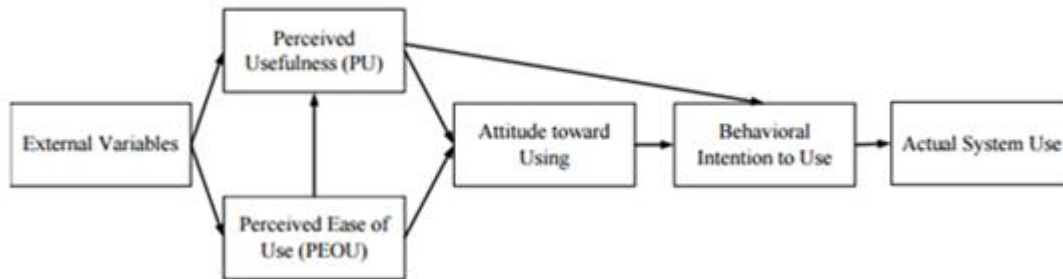


Fig. 11 Technology acceptance model (TAM)

It is noted in Chapter 2.5.4 that the mediation of technology is influenced by actual use and potentiality (capability). The extent to which technology is used is based on the affordances placed by the user on the technology, but also variables cited in the technology acceptance model.

Lin et al (2007) propose the TRAM (i.e. integration of Technology Readiness and Technology Acceptance Model), which evaluates the propensity to use and embrace new technologies to accomplish work and non-work related activities. Dishaw and Strong (1999) cite the importance in recognising the tasks associated with the use of technology, calling for inclusion of a task-technology fit of TAM.

Venkatesh et al. (2003) suggest that social influence and facilitating conditions i.e. contextual variables impact on the user intention and behaviour. They propose a Unified Theory of Acceptance and Use of Technology in which user intention is determined by age, gender, experience and the voluntariness of using technology. In a previous study in 2000, they noted the importance of subjective norms on technology acceptance. Similarly, Chau and Hu (2002) found that peers can influence the extent to which technology is accepted by individuals. Agarwal and Karahanna (2000) suggest consideration of emotive constructs such as self-efficacy and “play” on technology

acceptance. Gefen et al. (2003) and Wu and Chen (2005) noted the significance of trust in technologies being accepted for use.

The fact that different researchers propose new constructs to be considered with TAM highlights the varying contextual and mediating variables impacting on the use of technology in different contexts by different users. The degree to which technologies may be used is, as Venkatesh et al 2002, Argawal & Karahanna (2000), Davis (1989) point to associated social influences and facilitating conditions.

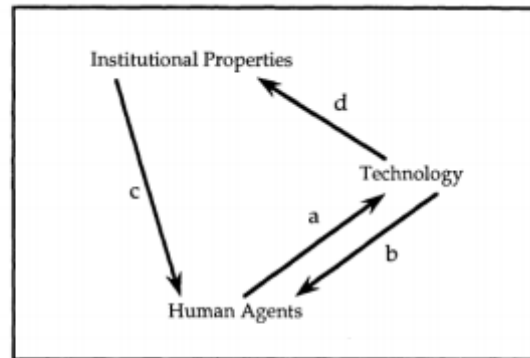
The contextual nature of intentionality and actuality of technologies means that it is also important to consider the Structuration model of Technology (Orlikowski, 1992). This technology theory considers the fact that the nature of tasks in work and the evidentiary materials of performance of these tasks constructed using technology is constrained or facilitated by different influences.

2.5.6 Structuration model of Technology (SMT)

The use of technology, as with any action, is mediated within the boundaries of social rules and resources. SMT analyses technology in terms of four relationships between human actors, technology and social structures. Giddens (1979) suggests that humans have knowledge that is reproduced through encounters with others. Over time these encounters become standardised and institutionalised, forming structures and social arrangements i.e. organisations. Orlikowski (1992) suggests that we should understand technology as one kind of structural property. She explains that there are four different influences that interact with human agents, technology and organisations.

- 1) Technology is a product of shared meaning as a result of human action
- 2) Technology as a medium of human action, facilitating certain types of work and constraining others
- 3) Institutional conditions of interaction with technology e.g. professional norms

- 4) Institutional consequences of interaction with technology i.e. feedback through use of technologies, reinforces existing structures or transforms structures and creates new ones



ARROW	TYPE OF INFLUENCE	NATURE OF INFLUENCE
a	Technology as a Product of Human Action	Technology is an outcome of such human action as design, development, appropriation, and modification
b	Technology as a Medium of Human Action	Technology facilitates and constrains human action through the provision of interpretive schemes, facilities, and norms
c	Institutional Conditions of Interaction with Technology	Institutional Properties influence humans in their interaction with technology, for example, intentions, professional norms, state of the art in materials and knowledge, design standards, and available resources (time, money, skills)
d	Institutional Consequences of Interaction with Technology	Interaction with technology influences the institutional properties of an organization, through reinforcing or transforming structures of signification, domination, and legitimation

Fig. 12 Structuration model of Technology (Orlikowski, 1992, p.410)

The model can be used as a lens to analyse the use of technology at not just an organisation level, but also group or individual level.

Social actors may place affordances on technologies to identify possible actions in using technology in the assessment environment. However, the outcome of actual human action is of course mediated through norms, resources and institutional properties. Structuration theory explains that decisions to use technologies are influenced by context, organisational strategies, and decision makers within the organisation as well as the intentionality of the user.

Appropriation of technology is the extent to which technology fits with the user. This is not just based on the affordances and actuality of the technology. Appropriation is also based on whether structures facilitate or constrain certain actions.

It is therefore the case that mediation of technology within the assessment environment is dependent on a wide range of contextual and mediating variables.

The following section reviews the current use of technology in IPD assessment in professional accounting by UK PABs.

2.5.7 Technology use in IPD competency assessment (Education and Practical Experience)

The following table was constructed after documentary analysis of UK PAB websites and materials on IPD assessment. It is clear that each PAB has their own technology that is used by their student members (aspiring professional accountants) to access evidentiary materials for practical experience assessment. PABs also use technology in different ways in assessment.

Professional Accounting Body (PAB)	Current use of Technology for IPD assessment - Education	Practical experience record for IPD	Current use of Technology for IPD assessment – Practical experience
Association of Accounting Technicians (AAT)	On demand computer based tests (CBT) and computer based projects – All exams (January 2010)	CV • Official job description • Details of your daily duties	MyAAT –E-platform (online) to upload practical experience record
Association of Chartered Certified Accountants (ACCA)	On demand computer based exams (CBE) – Foundation level exams (September 2016)	Electronic Practical Experience Record (PER)	MyExperience E-platform (via MyACCA) to record practical experience matched to competencies and 300 word reflections

Institute of Chartered Accountants England and Wales (ICAEW) UK	On demand computer based objective tests (CBT) Phased Professional level exams (Tax compliance and audit) – (March 2017)	Technical work experience (TWE)	Online training file (accessed via icaew.com/dashboard) – Exam history, ICAEW practical requirements - professional development, ethics and professional scepticism Paper based – Audit Qualification form Paper based - Evidence of technical work experience form (ETWE)
Chartered Institute of Management Accountants (CIMA) UK	On demand computer based exams (CBE) – Certificate level exams Professional Qualification (CBA) Computer based assessment (Four points of the year) – Case Studies and 90-minute objective testing (January 2015)	Practical Experience Application – recorded in a career profile	Career Profile – E-Platform (via CIMA online account) The career profile consists of an assessment of practical experience/membership application form, employment summary, a detailed record of your experience and a record of skills development
Institute of Chartered Accountants Scotland (ICAS) UK	Test of competence (computer based for x3 exams) Computer based exam - Test of expertise (Case study) (June 2016)	Achievement Training Log	ICAS Achievement log – E platform Training contract details, job reviews (incorporated into Achievement log), achievement days, tracking of competences e.g. deferred/achieved, ethics sign off
Chartered Institute of Public Finance Accountants (CIPFA) UK	CIPFA Online exam system – MyCIPFA Computer based assessment (CBA) – All exams (June 2016)	Practical Experience Portfolio (PEP)	Paper based PEP Record experience matched to competencies, general reflection activity sheet, continuing professional development

Table 9: Current use of technology in IPD assessment based on documentary evidence

The analysis of documents in Table 9 relating to the current practice of each of the six UK PABs, is provided as the basis for critical analysis of mediating role of technologies for competency assessment. This critical analysis is undertaken by analysing empirical data, literature and drawing from my own experience (this is consistent with an abductive approach).

As is noted above, the very recent introduction of CBT, CBE and CBA in IPD assessment means that there is no literature on technology-mediation in this specific assessment context. Additionally,

there is no theoretical framework to refer to on which the study on technology mediation in practical experience assessment can be underpinned. Consequently, I have drawn on the literature to develop an initial theoretical framework of IPD competency assessment. This framework is used to underpin the analysis of issues identified with evidentiary materials for the purpose of competency assessment is discussed in Chapter five. A critical analysis of the mediating role played by technologies in this context is discussed in Chapter six.

2.5.8 Initial Theoretical framework

A review of the literature has revealed that there is no theoretical framework of professional accounting competency assessment. It is for this reason that I have framed an initial theoretical framework which draws from the literature on competency assessment in professional accounting. This is required in order to set the context of the research phenomenon being investigated. This initial framework is also used to ground the critical analysis of mediation of technology in this context.

There are no research studies which explore technology mediation in competency assessment in professional accounting. As such, a theoretical framework, incorporating technology-mediation building on from the initial theoretical framework of competency assessment is developed through analysis of the literature, empirical data and documentary analysis. Significantly, there are also no research studies that explore the construction of verifiable evidence to assess the performance of aspiring professional accountants that can be drawn on for this research study. This affirms a research gap that the study seeks to address. The importance of which is affirmed by the introduction of IES 6.

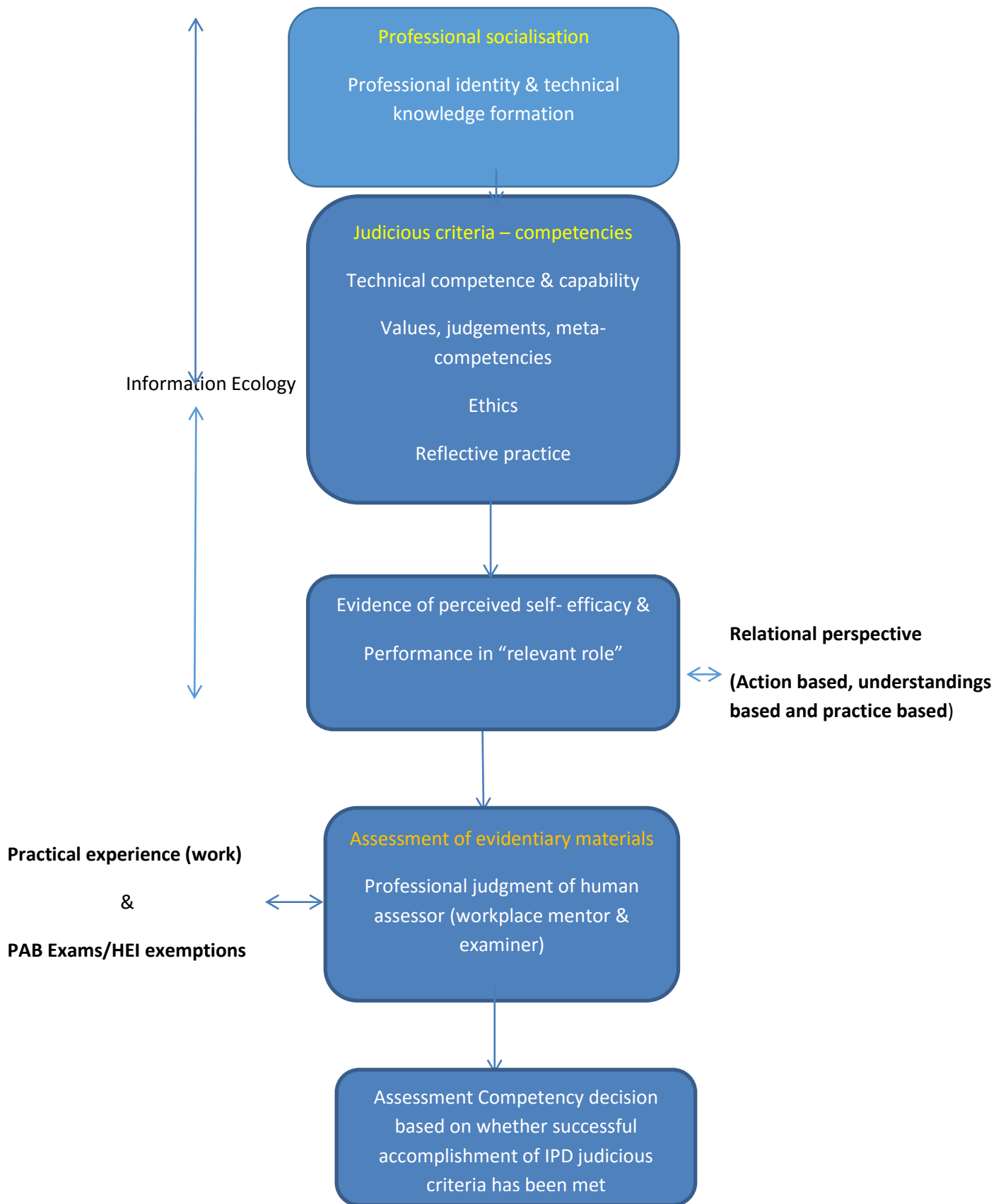


Fig. 13 Initial Theoretical Framework of IPD assessment (without technology)

2.5.9 Summary

The literature review seeks to provide a critical analysis of the theories that inform and underpin the phenomenon under investigation. In addition, it is clear that despite the increased use of technology in professional accounting education and IPD competency assessment, there is very little understanding of the mediating role of technology in this context. New evidentiary requirements that successful accomplishment of performance of work based tasks is based on verifiable evidence, presents new opportunities and challenges for assessors of competency, in an environment in which technology is being increasingly used in different ways.

The literature suggests that competency assessment is complex and impacted by interactions with different social actors within the assessment environment. It is the case, therefore, that multiple actors (assessors) make judgments regarding performance based on evidentiary materials submitted using e-platforms and web based applications. The literature suggests that competency is assessed based on performance in a practical experience context or at the “Does” level.” (See Millers Pyramid, Chapter 2.4.3). Consequently, the focus of exploration of the mediating role adopted by technology will be within practical experience assessment (with consideration of simulated environments).

The following chapter seeks to outline the research methodology undertaken in order to address the research questions posed.

3.0 RESEARCH METHODOLOGY

3.1 Introduction

All studies require a description of fundamental assumptions regarding research and the appropriate methods required in order to address the research questions posed (Myers 1997). It is therefore necessary to argue the case as to which approach is best in order to answer the research question of this study referred to in Chapter 1 which is, *“Does the use of a technology-mediated environment enable the construction of verifiable competency evidence on which valid judgments about the professional competency of aspiring professional accountants are to be made by third parties?”*

Hence, in this chapter I will discuss the critical realist interpretivist stance which is employed in order to understand the perceptions, beliefs, emotions, perspectives of accounting professionals through their experiences, regarding the mediating role of technologies. In addition, I will ascertain whether participants believe that technology enables the construction of verifiable evidence for the purpose of competency assessment of aspiring professional accountants. Importantly, the fundamental assumptions to ensure that the research study addresses the research aim, is what informs the design of the research study itself (Myers, 1997).

Thus, the chapter moves from explaining the philosophical stance of the study to a justification of the approach, strategy and selection of research method employed to ensure that valid data is collected and analysed in order to answer the research question set.

3.2.1 Philosophical foundations of the research

The starting point of the design of research study is consideration of the philosophical stances open to the researcher.

Burrell and Morgan (2003) suggest that developing a philosophical perspective requires that the researcher make several core assumptions concerning two dimensions: the nature of science and the nature of society.

Positivism

A positivist approach is usually associated with the nature of science. This philosophical stance promotes the use of 'working with an observable social reality and that the end product of such research can be a law-like generalisation similar to those produced by the physical and natural scientists' (Remenyi et al, 1998, p.32). This philosophical stance suggests that the world has an objective reality (Carson et al, 2001). They go on to explain that positivist research assumes research to be value free. The researcher emancipates themselves from the study remaining emotionally neutral to make a clear distinction between science and personal experience and fact and value judgement. Hudson and Ozane (1988) suggest that researchers adopting a positivist philosophical stance seek to make a time and context free generalisation, made possible because of the detachment of the researcher and their values with the study and those involved in the study. Consequently, Guba and Lincoln (1994) explain positivism is often criticised for a "naïve realism" in which reality is apprehendable and knowledge can easily be captured and generalised in a context-free form.

Post positivism

The alternative philosophical stance includes post-positivist paradigms that developed largely in response to critique and acknowledged limitations associated with positivism. Post positivist paradigms that have developed include Popper's falsificationism, Berger and Luckmann's social constructionism, Kuhn's paradigmatic explanation of scientific revolutions, and Feyerabend's anarchistic philosophy of science (Morçöl, 2001).

Hence, this philosophical stance is much more common in social science studies. It embraces plurality, rather than the dualistic division proposed by positivism of objective or subjective. Post-positivist approaches are interpretive and this has led to an emphasis on meaning, seeing the person, experience and knowledge as 'multiple, relational and not bounded by reason' (Henriques, Hollway, Urwin, Venn and Walkerdine, 1998).

Holden and Lynch (2004) explains that the two major philosophical approaches are delineated by several core assumptions concerning ontology (reality), epistemology (knowledge), human nature (pre-determined or not), and methodology. Saunders et al (2009) explain that the philosophical stance adopted by a researcher impacts on the research approach taken and strategy employed, which in turn impacts on the methods selected to operationalise the study. According to Grix (2002), it is important to have a clear understanding of the ontological and epistemological assumptions underpinning any research study for the following reasons;

1. To understand the interrelationship of the key components of research (including methodology and methods).
2. To avoid confusion when discussing theoretical debates and approaches to social phenomena.
3. To be able to recognize others', and defend our own positions.

(p.176)

Philosophical assumptions of the study (positivist *and* post positivist)

The focus of this study is the mediating role of technologies within a specific professional accounting competency assessment context. The study draws on the principles of both philosophical paradigms. The study recognizes that there is a world that exists outside the social actors who interpret realities based on their experiences as well as events within the social structures that they

interact in. However, the study also assumes that generalisable theories exist that are related the world independent of the social actors interacting within social structures. Consequently, the study suggests that there are generalisable theories that can be “tested,” which are applicable in different contexts. The study adopts a position that these generalisable theories are impacted by forces, interactions, relations within social structures, sometimes to a greater, sometimes to a lesser extent, which has an impact on the outcome. This means that the same laws may not have the same outcome each time they are “tested” as the outcome and extent to which the theory is generalisable is dependent on context.

It is these philosophical assumptions relating to both positivism and post positivism that underpin the foundations of the research study. These are explored in more depth in the following sections on ontology and epistemology.

3.2.1.1 Ontology (Rationale for adopting critical realism)

Ontology is the starting point of all research, after which one ‘s epistemological and methodological positions logically follow (Grix, 2002). Saunders et al (2009) explain ontology is concerned with the nature of reality. According to Bryman and Bell (2007), ontological assumptions and commitments will feed into the ways in which research questions are formulated and research is carried out. They go on to explain that questions of social ontology cannot be divorced from issues concerning the conduct of research.

Objectivism v constructivism

There are two aspects of ontology, objectivism; (also referred to as critical view, evaluatism, empiricism, logical positivism, and dualism) and constructivism; (also referred to as subjectivism, interpretivism, absolutism, relativism, post-positivism, and constructionism) (Huglin, 2003).

There is much debate regarding which ontological assumption is best for different research fields. This social science research study overlaps numerous research fields (education, accounting, and

professional studies) with that of information systems (IS) at its core. Survey findings by Orlikowski and Baroundi (1991) and Alavi and Carlson (1992) indicate that the philosophy found to be more popular in IS positivism. However, Barrett et al (2010) suggest that there are three different philosophical views have been identified for IS research, none of which are positivist;

- *Critical social theory (Ngwenyama and Lee, 1997; Orlikowski and Baroundi, 1991)*

Critical social theory encourages the production and application of theory as part of the overall search for transformative knowledge (Leonardo, 2004). Critical theory is related to social theory and has a multi-disciplinary knowledge base. It puts criticism at the heart of its knowledge production.

- *Pragmatism (Agarfalk, 2010; Goldkuhl, 2008)*

Pragmatism may involve mixing methods from the two paradigms on the basis of what works (Cherryholmes 1992). Tashakkori and Teddlie (1998) suggest that the worldview of the researcher does not influence the approach or method adopted, which is second to the research question itself except in the most 'abstract sense.'

- *Critical realism (Bhaskar 1997;1998, Hjørland, 1998; Dobson, 2002)*

According to Barrett et al (2010) critical realism is of particular interest in the study of IS. This is because the nature of research in this field spans both natural science (due to their technological characteristics) and social science (due to their applications in deeply human contexts such as organisations). This paradigm is underpinned by the ontological belief that the world exists independently of what social actors may think about it (Bhaskar, 1997). It proposes that there are intransitive objects that are not created by society e.g. death. But that there are also transitive objects e.g. "artificial objects fashioned into items of knowledge by the science of the day" (Barrett et al, 2010 p.11), that become social norms e.g. theories, facts, models. This paradigm suggests that objects (physical or social), have certain structures and powers that can behave in particular ways and cause change (Bhaskar, 1998). This potentiality of these objects still exists even if it remains

unexercised, but can only be known in specific contexts. Importantly, the outcome/change is not the same with each context. This ontology bridges positivism and post positivist philosophies.

Ontological assumptions of this research study

The ontological assumptions of the study are grounded in an understanding that reality is a social construct and as such is subjective. The ways in which social actors interact with each other, as well as interactions with intransitive and transitive objects (e.g. technology) around them, impacts on the ways in which the world is viewed. It is these social structures and interactions that influence our interpretations of the world, which is separate from the world itself. This ontology seeks to explain the interface between the natural and social world.

Berger and Luckmann (1966) explain that these interactions and representation of actions become normative and embedded into the fabric society. The reality of experience can be captured through the lens of social actors who experience observable events. Sayer (2000) argues that “observability may make us more confident about what we think exists, but existence itself is not dependent on it” (p.12). Reality is subjective and multiple as seen by the participants in the study (Bahari, 2010).

The reality of experience will be explained from the perspective of accounting professionals who have experienced competency assessment of aspiring professional accountants from different perspectives. Central to the study is the theoretical proposition that technology mediates the interactions of these social actors in the assessment environment. This proposition is based on generalisable technology mediation theory, but specific to the context of competency assessment. However, in order to explore the phenomenon under investigation, an understanding of the experiences of accounting professionals, through the lens of these agents interacting within the assessment environment is required.

Competency assessment is a socially constructed activity, experienced by assessors and assessees. Their actions and interactions impact on their perceptions and how they experience the reality of competency assessment and its mediation by technology.

Normative competency assessment theory is developed through an institutionalization of accepted social norms of ideals. Technology is conceptualized as a transitive object that has the potential to effect change. However, in order to understand the reality of the phenomenon under investigation in a real life context, I must try to understand the experiences, perceptions and ideas of social actors who have experienced professional competency assessment and the role mediating role of technology in the assessment process. In asking questions of those who have experienced the phenomenon, it is problematized, knowledge is shared, reframed and constructed. Critical realism seeks to identify those deeper lying mechanisms which are taken to generate empirical phenomena in a way that the other ontologies do not. Within these mechanisms, agents and structures are distinct but relational (Bhaskar, 1998). Hence this study is underpinned by critical realism ontology.

The next step is to determine the epistemological assumptions underpinning the research study, which in turn informs the research approach adopted.

3.2.1.2 Epistemology (Rationale for adopting Interpretivism)

Epistemology – theory of knowledge

According to Saunders et al (2009), epistemology is about what constitutes acceptable knowledge in a field of study (p.112). It is referred to as the ‘theory of knowledge’, especially in regard to its methods, validation and ‘the possible ways of gaining knowledge of social reality, whatever it is understood to be (Grix, 2002 p. 177). A basic epistemological stance (in qualitative research) is to obtain phenomenological insight i.e. to understand how social reality is created (Bahari, 2010).

This requires constructivist accounts of knowledge by individuals who construct meaning of their social realities. Meaning is assumed to be highly subjective and best understood through social interaction and personal histories and experiences (Creswell and Plano Clark, 2007). Joniak (2000) suggests that researchers who hold this view embrace internal realities and cannot embrace an objective epistemology.

The study recognizes and values participants' own interpretations of reality as 'subjective truth' with the belief that knowledge emerges from deep understanding of the context in which these realities are experienced. Hence, the epistemological assumptions of the study are embedded in Interpretivism (Bahari, 2010). I will explain why this is the case in more detail below.

Interpretivism

Interpretivist research is sometimes described as non-positivist, post positivist or qualitative (Carcary, 2011). However, it is described, the underlying assumption of interpretivist research is that reality is not objectively determined, but is socially constructed (Husserl, 1965). It is therefore clear that interpretivism is an epistemological assumption that underpins this study.

According to Hudson and Ozanne (1988) Interpretivism or Interpretivist researchers believe reality is multiple and relative. It was further explained by Guba and Lincoln (1985) that these realities very much depend on other systems for meanings, which make it even more difficult to interpret in terms of fixed realities (Neuman, 2000). According to Carson et al (2001) "knowledge acquired in this discipline is socially constructed rather than objectively determined" (p.5) and "perceived" (Berger and Luckmann, 1967, p.3). Interpretivists, according to Carson et al (2001), make use of personal and flexible research structures. Black (2006) says these research structures are used in capturing meanings and human interaction and avoid rigid structural framework to make sense of what is perceived as reality (Carson, et al 2001).

The use of the emergent and collaborative knowledge according to Hudson and Ozanne (1988) is consistent with Interpretivists' belief that human beings have the ability to adapt and that no one can gain prior knowledge of time and context bound social realities. Consequently, the Interpretivists' goal enthuses Neuman (2000), is to understand and interpret meanings in human behaviour within social realities rather than to generalise and predict causes and effects. Therefore, for the Interpretivist researcher, assert Hudson and Ozanne (1988) it is important to understand motives, meanings, reasons, and other subjective experiences that are time and context bound.

Interpretivism recognises the challenge in value-freedom in research and making research objective. Bannister (2005) explains that multiple realities are considered where an external reality exists which is what occurs in the physical world. However, internal realities are subjective and unique to each individual. It is because each situation is unique to each individual that the researcher needs to be immersed in the research to understand and interpret the reality being interpreted and described.

Rowlands (2005) explains that the researcher is not perceived as being entirely objective and is part of the research process itself. Walsham (2006) states, "we are biased by our own background, knowledge and prejudices to see things in certain ways and not others." He goes on to explain, "We inhabit a world that is always subjective." (p.321). Thus, context is critical to an Interpretivist approach (Klein and Myers, 1999). Hussey & Hussey (1997) explain that by placing people in their social context there is greater opportunity to understand the perceptions they have of their own activities.

The Interpretivist paradigm recognizes that participants' perspectives are taken as the primary sources of understanding and investigating the phenomenon of technology-mediated professional competency assessment. In addition, this phenomenon is examined with respect to culture and contextual circumstances (Chen and Hirschheim, 2004).

Justification of Interpretivism for the study

In order to address the research question, an understanding of the unique experiences of social actors who have knowledge of and experience competency assessment is required. It is important that an understanding of the contextual depth of the different experiences of participants through their articulated self-reflexive understanding is gained. The understanding of 'reality' from the interpretivist point of view is not a simple account of what is; rather, it is something that people in societies and groups form from their interpretation of reality (Cordella and Shaikh, 2003). The interpretative paradigm assumes that reality is socially constructed by every unique individual, from their own unique contextual interpretation (Joniak, 2000). It is the view of a person's reality that affects how they come to gain knowledge of their reality. Fisher (2007) explains that this interpretation is influenced by the individuals' values and their way of seeing the world as well as other peoples' interpretations, compromises and agreements that arise out of negotiations between their own interpretation of reality and other peoples' interpretation.

Research activities undertaken in this study will determine an interpretation of "what is going on" in the typical situation of professional competency assessment of an aspiring professional accountant and the mediating role of technology in this situation. Experiences re-told during the research process will be unique and subjective to the individual, as they reflect and interpret their historic experiences and events. The knowledge of one's reality cannot be understood independently of the social actor's experience in creating that knowledge. In other words, the way in which participants' view and experience the world are intertwined.

The study seeks to interpret and explore the self-reflexive understandings of the participants of the study, in order to understand their realities of the mediating role of technology within the context of professional accounting competency assessment environment. They are also called upon in order to gain a sociological collective understanding of verifiable evidence is constructed and whether a

conceptualized assessment model, incorporating verifiable evidence construction enables valid and reliable judgement of competency to be made.

However, understanding of these situations of assessment can only be gained by understanding the social structures giving rise to the phenomenon being investigated (Dobson, 2002 in Saunders et al, 2009, p.105). Hence, it is important to gain understanding of the assemblage of the competency assessment system within the assessment environment. In other words, there are different contexts and structures operating within the competency assessment environment. In order to explore the phenomenon, it is important to determine the views, perspectives, and motivations etc. of the accounting professionals who themselves make up the systems within the assessment environment. Hence, I will capture ethnographic data (values, behaviours, beliefs) of accounting professionals who interact in and across different social structures in the assessment environment, although I am not adopting an ethnographic study.

The ontological and epistemological assumptions of the researcher are translated into distinct methodological strategies envisioned for the study (Krauss, 2005). It is therefore the case, that my epistemological and ontological assumptions are the basis upon which my research approach is employed.

3.2.2 Research approach (Rationale for using an abductive approach)

Different research approaches

Saunders et al (2009) explain, there are different research approaches (inductive, deductive, abductive) that I could adopt for the study.

- *Deductive*

A deductive approach is concerned with deducting conclusions from theory- informed propositions.

“Deduction begins with an expected pattern that is tested against observations, whereas induction

begins with observations and seeks to find a pattern within them” (Babbie, 2010, p.52). A deductive approach is commonly associated with positivist studies.

- *Inductive*

An inductive approach moves from specific observations to broader generalisations and theories, which according to Trochim (2006) is called a “bottom up” approach. An inductive approach is more commonly associated with post-positivist studies.

- *Abductive*

An ‘abductive’ research strategy is associated with the interpretive approach, involving a process of moving between concepts and meanings...lay accounts [of concepts and processes], and social science explanations” (Mason, 2002, p.180). Blaikie (2000) explains that when adopting an abductive approach, the researcher enters the world of the research subjects, in order to understand the rationale accompanying social activities, immersing themselves in the “relevant social world” with periods where they are removed from the research process in order to reflect, transcribe and analyse (Blaikie, 2010, p.156). Importantly, in the context of this study, the motives and rationales of individuals within their everyday lifeworld are abstracted into ‘typical actions in typical situations’ (p.25).

Fundamental assumptions of the study

To gain an understanding of the everyday lifeworld experienced by social actors within the competency assessment environment, an understanding of their experiences of assessment, evidence construction and the mediating role of technology during interactions in the assessment environment is required. This is achieved through interpretation of articulations of experience, perceptions and beliefs through the lens of the participants themselves. The study assumes that interactions, power relations and structures within their social realities can influence and change the realities experienced by social actors. As a result, changing social realities can become context

dependent as these influencing factors impact on realities to a greater and lesser extent. However, in addition to subjective realities are generalisable socially constructed norms that can be conceptualised as theoretical propositions.

These theoretical propositions can be framed as sensitizing concepts. These are constructs that are derived from the research participants' perspective, using their language or expressions, and that sensitize the researcher to possible lines of inquiry (van den Hoonaard, 2008). This is indicative of a deductive, theory-informed approach. It is the case that theory in the literature informs us that technology mediates interactions between social actors and their everyday lifeworld (see Vygotsky 1978, Ihde 1979, van Beek, 2000). However, investigation of the storied experiences of participants' socially realities grounded in this sensitizing concept are subjective and multiple. In order to address the research question, a fundamental epistemological assumption of the study is that knowledge is constructed through interactions. This constructed knowledge is dependent on the interpretations, perceptions and experiences of social actors who have experienced these interactions.

Crucially, it is the very factors that are deemed to lead to validity issues in positivist studies that is the focus of the development of knowledge in this study. It is therefore the case that the interpretation of observations within the specific context of the study is an important feature of the study.

The study begins with a theory informed, theoretical proposition which provides the foundation for theory building;

“Technology mediates interactions between assessors, assessees and evidence within the competency assessment environment of aspiring professional accountants”

The very fact that the study begins with a sensitising concept based on subjective, socially constructed theory which it seeks to investigate within the specific assessment context, demonstrates an acknowledgement of generalisable theory that is to be “tested” empirically. This is

a fundamental assumption upon which the phenomenon being investigated is based. Importantly, “testing” of this theoretical proposition is through the lens of accounting professionals with knowledge and experience of competency assessment. This is required to determine the “subjective truth” that the theory applies to the specific context of competency assessment. This is achieved by exploring the subjective realities of accounting professionals who interact within the competency assessment environment. This approach reflects the critical realism ontology and Interpretivist epistemology of the study.

Hence, it is the starting point of this study to determine whether within this specific assessment context, the theoretical proposition applies. “Testing” it requires a deductive approach. The study proposes that this is done through analysis of empirical data relating to accounting professionals’ observations and experiences of professional competency assessment. In doing so, the study does not assume a positivist paradigm and an objective reality. It is therefore the case that a purely deductive approach, which seeks to determine law-like generalisation is not deemed appropriate, given the critical realism ontological underpinnings of the study.

Critical realism places an emphasis on different levels of realities in order to reveal a detailed snapshot of the phenomenon under investigation. An integral part of this ontological perspective is that there are some generalisations drawn in relation to some levels of reality, whilst some observations are specific to the levels/context in which the phenomenon is investigated. Lawson (1999) explains a deductive approach is inconsistent with the ontology of critical realism.

Conversely, however, a purely inductive approach is one where the data drives theory and such generalisations are not acknowledged prior to undertaking the study.

It is clear that a purist approach is not appropriate for this study i.e. neither a purely deductive approach nor inductive approach is appropriate. Hence, an abductive approach is deemed most appropriate, due to the retroductive nature of the study, i.e. in using elements of both inductive and deductive approaches.

Justification of an abductive approach

An abductive approach enables research methods typically used within different paradigms to work together sympathetically within a theoretically coherent research design. It is aligned with the critical realism ontological assumptions and Interpretivist epistemological paradigm underpinning the study. This approach recognises the importance of meanings and interpretations through the lens of social actors and their sense-making of experiences (Blaikie, 2007; 2010). This is an important feature of abductive approach due to the ontological critical realism philosophy underpinning of the study.

Mason (2002) explains that in advancing an abductive research approach, the research process is a simultaneous process of development of theory, generation of data and its analysis in a dialectical process. Blaikie (2010) explains; "Data and theoretical data are played against one another in a developmental process. Regularities that are discovered in the course of the research will stimulate the researcher to ask questions and look for answers." (p.156). It is an approach which adopts a logical and methodological approach to adopt logical inferences to create new knowledge (Reichertz, 2010).

Single process of discovery – Retroductive (abductive) approach

The study embarks on one single process of discovery in the exploration of the mediating role of technologies within a specific assessment context. However, within this single process are multiple approaches taken in order to answer the research question. These approaches are used both simultaneously, in parallel and separately in the research study. This is diagrammatically represented in Fig. 14 below.

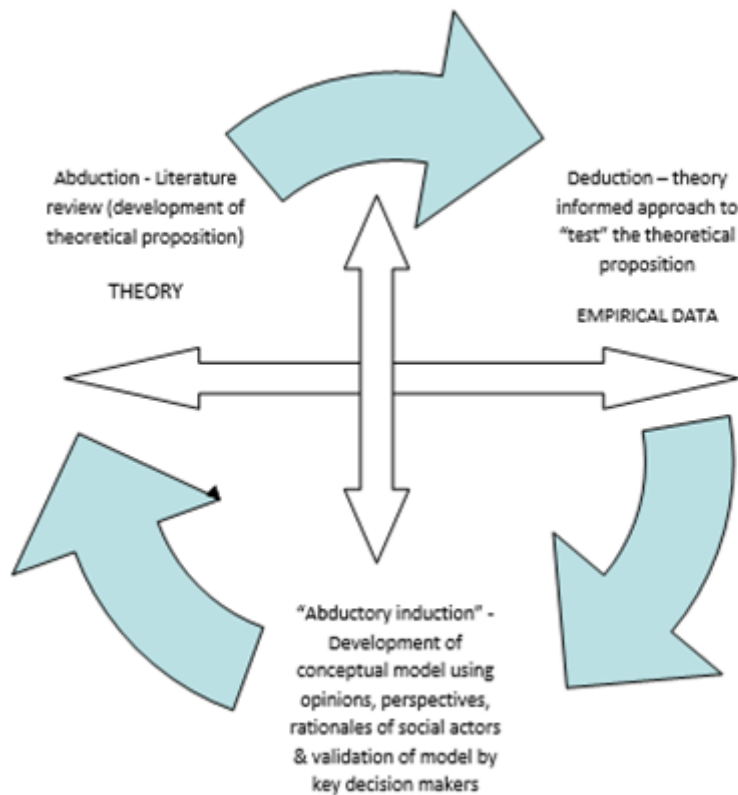


Fig 14. Abductive approach of the study which uses deductive and inductive approaches simultaneously, sequentially and iteratively to create knowledge in a single process.

The following section, takes the reader through the different aspects of the abductive approach in more detail, drawing upon the rationale of each stage of the single process of discovery.

- *(Abduction) Development of theoretical proposition*

The critical realism ontological assumptions of this study means that a hypothesis is not set. Instead a sensitizing concept informed by the literature review is framed into a theoretical proposition. Blumer (1954) explains that sensitizing concepts give the user a general sense of reference and guidance in approaching empirical instances. Charmaz (2003) has referred to sensitizing concepts as, “those background ideas that inform the overall research problem” (p.1). In this case of this study, the background ideas relate to the mediation of competency assessment environment. These ideas are informed by an initial literature review (See Chapters 3).

This theoretical proposition is inferred from reviewing technology theory (mediation theory, activity theory, and technology affordances/presence theory) and empirical studies investigating the use of technology for work integrated/employability focused assessment (see McEwen et al, 2010; Stiansy and Hughes, 2014; Osborne et al 2013; Hughes et al, 2008.)

Other empirical studies affirm that technology can enable the construction of evidence for professional accreditation and CPD assessment in UK (NHS Education for Scotland, 2009; UK Centre for Legal Education at University of Warwick (UKCLE) ,Barton & McKellar, 2009); Leap Ahead at New College Nottingham (Brown & Harding, 2010); Manchester Metropolitan University JISC curriculum design project, (2008-2012); Chartered Institute of Librarians and Information professionals, “REfLECT” (Barrett, 2008); University of Cumbria, Flourish (Chesney, 2009)

Lastly, studies from the literature review researching assessment practices to enhance the verifiability (a lack of which gives rise to reliability and objectivity issues) of evidence for assessment include; Greateorex (2005) “Assessing the Evidence: different types of NVQ evidence and their impact on reliability and fairness”; Murphy et al (1995), “The reliability of assessment of NVQs,” Ragat and Hevey (1995) who evaluate the sufficiency of evidence and professional judgments by assessors and Gipps (1995) “Reliability, validity and manageability in large scale performance assessment.”

However, the specific research problem of this study is a problemization of the phenomenon of the mediating role of technology within a competency assessment context. It asks whether technology enables the construction of verifiable evidence for the purpose of professional accounting competency assessment. Hence, it is the sensitising concept of technology mediating everyday life worlds (and therefore, the professional competency assessment environment) that is the starting point of the research study. Blumer (1954) explains that sensitizing concepts can be tested, improved, and refined. Thus, it is an abductive approach that is employed for the study that seeks to test, improve and refine the theoretical proposition inferred.

Yin (1994) suggests that where existing theory has been used to formulate a research question and objectives, theoretical propositions may have to be used to help devise a framework to help one to organize and direct data analysis. Hence, an initial theoretical framework of professional competency assessment is conceptualised (see Chapter 3.5.7) following a review of the theory in the literature. This is the basis on which to “test” the theoretical proposition and organise analysis relating to mediation of technology within the professional competency assessment process. This is operationalised through reviewing competency assessment documentation and analysis of the observations of accounting professionals.

- *(Deductive) Testing of theoretical proposition*

Testing the theoretical proposition requires adopting a logical and scientific approach to understand the interpretations of accounting professionals. Testing of the theoretical proposition, which forms the underlying assumptions underpinning the research question, is not performed using statistical inference or modelling. It is “tested” by on drawing on the collective experiences and interpretations of those experiences of social actors with experience of the phenomenon that is problematized. Analysis of “thick description” in the data collected from these social actors provides more detailed explanation of the phenomenon in order to “test” the theoretical proposition.

A deductive qualitative data analysis approach is employed in order to “test” the theoretical proposition. Gilgun (2014) explains that this approach is a way of using theory at the beginning of a study to test a hypothesis or sensitizing concepts. Giglun (2014) suggests that previous research, theory, professional experience, personal experience and knowledge of persons and situations provide the sources of the theory to be tested.

Blaikie (2000) explains that central to an abductive strategy is the entry of the researcher into the world of the social actors involved in the research to understand motives and reasons that accompany social activities. Therefore, an integral part of testing the theoretical proposition is

understanding social structures, motivations and reasons for actions and interactions within the professional competency assessment environment.

The following diagram shows the social actors interviewed to “test” the theoretical proposition and determine its “subjective truth.”

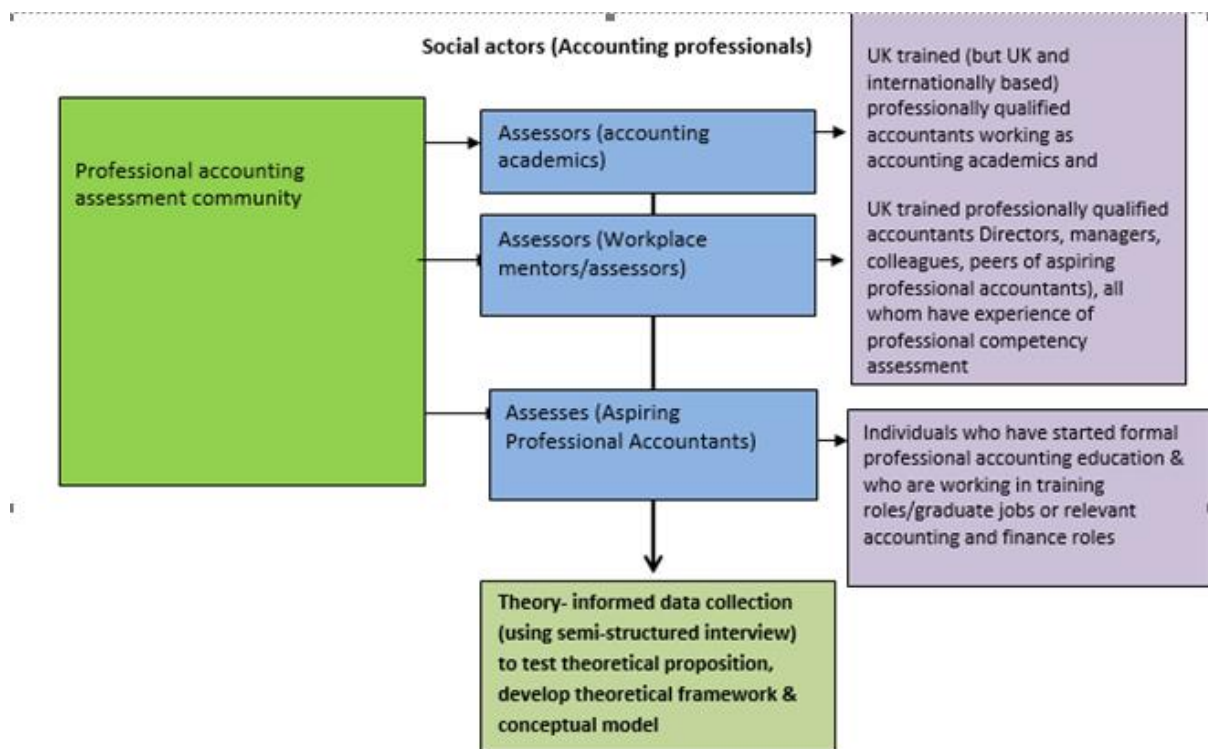


Fig. 15 Social actors (assessors and assessees) to be interviewed using a theory-informed data collection instrument to 'test' the theoretical proposition emergent from the initial stage of the literature review

It is also these social groups who provide data which is analysed to refine and reframe the theoretical framework developed from the literature review to incorporate verifiable evidence and the mediating role of technology. This is the first stage of framing the theoretical framework and the beginning of developing a conceptual model. The second stage is to refine and validate the conceptual model with assessors, PAB and IAESB representatives in the ‘abductory induction’ stage explained below;

- *Abductive induction – Inter-subjectively constructed, “shared truth.”*

"Induction refers to the actions that lead to discovery of a hypothesis—that is, having a hunch or an idea, then converting it into a hypothesis and assessing whether it might provisionally work as at least a partial condition for a type of event, act, relationship, strategy, etc." (Strauss, 1987, pp.11.)

Pierce (1955) suggests when there is subjective judgment that involves interpretation of the results and estimation of their significance, the process is not pure induction and has an abductive element. If there is an element of hypothesis (or theoretical proposition) where an element of guesswork unites the observation made to test the theoretical claims made, this is referred to as ‘abductive induction.’ The ‘testing’ of the theoretical proposition, through subjective evaluation of the theoretical framework and development of the conceptual model is the reason that within the single process of discovery, it is an abductive induction approach rather than induction approach that is undertaken.

The following diagram shows the social actors interviewed to unite observations and opinion to further develop the conceptual model and reach a conclusion its plausibility.

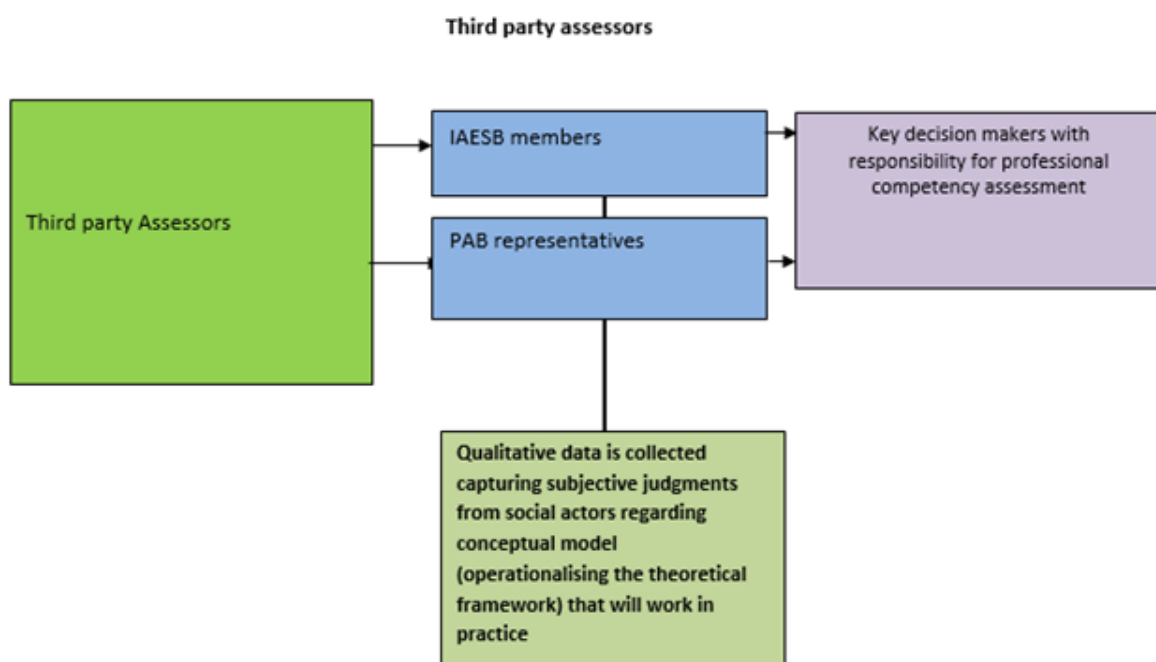


Fig. 16 Third party assessors to validate the technology-mediated conceptual model

Given the emphasis on context in determining the “subjective truth” of the theoretical proposition and ontological assumptions regarding multiple realities, it is important that the research strategy incorporates these ontological and epistemological assumptions. The next section seeks to explain the rationale for the research strategy adopted.

3.2.3 Research Strategy (multiple case study)

Non paradigm specific strategies

Denscombe (2010) suggests that a research strategy is a non-paradigm specific approach. As is the case with all layers of the research onion, there are a range of strategies that could be employed for the study. Different strategies draw from a range of different philosophical assumptions and research approaches.

Strategies associated with Interpretivism according to Saunders et al (2009) include; case study, action research and grounded theory.

- *Case study*

Robson (2002) defines a case study as a “strategy for doing research which involves an empirical investigation of particular contemporary phenomenon within its real life context using multiple sources of evidence” (p.178). Punch (2005) discusses a case study strategy as an approach to qualitative research design alongside ethnography, grounded theory and action research. He goes on to explain, “The basic idea is that one case study (or perhaps a number of cases) will be studied in detail, using whatever methods seem appropriate. While there may be a variety of specific purposes and research questions, the general objective is to develop as full an understanding of that case as possible.” (p.144)

- *Action research*

Parkin (2009) explains that the purpose of undertaking action research is to bring about change in specific contexts. Meyer (2000) suggests its strength is generating solutions to practical problems whilst empowering practitioners. These social actors are engaged with the research and the subsequent development or implementation activities. Koshy (2010) explains that action research is a method used for improving practice. It involves action, evaluation, and critical reflection and – based on the evidence gathered – changes in practice are then implemented.

- *Grounded theory*

Glaser and Strauss (1967) suggest that the purpose of grounded theory is to ‘generate or discover a theory.’ They define grounded theory as “the discovery of theory from data systematically obtained from social research” (p.2). Charmaz (2002) explains that typically there is a simultaneous collection of data and analysis. The data alone drives the codes and categories and there are no pre-existing conceptualisations of theory.

Again, I am required to choose the most appropriate strategy that will enable me to employ the most appropriate method to address the design needs of the research study effectively. Although the research has principles aligned with action research, a case study strategy is considered the most appropriate strategy for the study. The rationale for this is explained in more detail in the following section.

Rationale for case study strategy

“Critical realism is particularly well suited as a companion to case research. It justifies the study of any situation, regardless of the numbers of research units involved, but only if the process involves thoughtful in depth research with the objective of understanding why things are as they are.”

(Easton, 2010, p.119)

The attention given to case study in the generic social research methods literature varies widely. A case study is commonly used to describe a method, an approach, a strategy or a design (Tight, 2009). Whilst Punch (2005) asserts that case study is 'more a strategy than a method,' Bryman (2004) treats a case study as a research design. Cohen et al (2007) see case study as a style of research with the following characteristics;

- Will have temporal characteristics which help to define their nature
- Have geographic parameters allowing for their definition
- Will have boundaries which allow for definition
- May be defined by an individual in a particular context, at a point in time
- May be defined by the characteristics of the group
- May be defined by the role or function
- May be shaped by organizational or institutional arrangements

(p.254)

A case study is expected to catch the complexity of a single case (Yin, 2005). "A case study optimizes understanding pursuing scholarly research questions. It gains credibility by thoroughly triangulating the descriptions and interpretations, not just in a single step but continuously throughout the period of study." (Stake, 2000, p.443)

A case study is used to generate a thick and holistic understanding of the social entities and processes that are the focus of the study (Snow and Trom, 2002, p.163). Given the research design adopted in case study, context is a matter of priority. The focus of the case strategy employed is to achieve thick and holistic understanding of the mediating role of technology in a professional accounting competency assessment environment and the construction of verifiable evidence. This involves an in-depth exploration of interactions between agents within different social structures in

the assessment environment to understand not only answer the research question, but to understand the reasons attributable to its answer.

IPD practical experience assessment provides the case study context in which the phenomenon is empirically and theoretically explored. However, there are different domains and structures within the assessment environment itself, within which accounting professionals interact. Participants selected to take part in the study are a heterogeneous group of accounting professionals. Their roles within the professional competency assessment environment are defined by their role in competency assessment. They are and have been, professionally socialized in different social structures (e.g. organisations). Sayer (1992) explains that this is a set of internally related objects or practices" (p.92).

Accounting professionals share different experiences and practices of professional competency assessment. They have different perceptions regarding the mediating role of technology within the process as a result of their interactions in different structures. However, they share common characteristics and provide observations and knowledge based on experience in relation to the same phenomenon; competency assessment. Easton (2010) explains that case study research involves investigating one or a small number of social entities or situations about which data are collected, using multiple sources of data and developing a holistic description through an iterative research process.

Multiple case studies

Within the case study context are different structures and domains (e.g. education and workplace) each representing a 'specified unit' (Bryman and Bell, 2007). As there are multiple units within the assessment environment, it is suggested that a multiple case study based qualitative research study is being undertaken. An important assumption of the study is that the theoretical proposition applies across all the different specified units operating and interacting in the assessment

environment. Hence, the problematization of the phenomenon explored is to be addressed through the analysis of data collected from these specified units. “Multiple cases also create more robust theory because the propositions are more deeply grounded in varied empirical evidence
“(Eisenhardt & Graebner, 2007, p.27)

It is proposed that there are three different case studies (assessee/assessor/IAESB) explored in this study, although their boundaries are unclear and overlap through power relations and interactions within different structures. They are demarked by the specific characteristic of role within the assessment environment.

It is important to note that an important and significant part of the case study strategy is the review of a range of sources of data and information to support observations relating to each case study. In practice, supplementary materials include occupational and organizational competence frameworks, job descriptions, training contract agreements, website information and PAB competence frameworks. Mason (2002) explains that these documents can be analysed in the same way that interview transcripts are analysed as an additional source of data. These materials are an integral part of the exploration of the phenomenon and another important aspect of the case study strategy employed.

The following section refers to sampling requirements of accounting professionals selected from whom to collect data from. In addition to this empirical data are a variety of documentary materials, also analysed in order to address the research question.

3.2.4 Sampling

The different range of contexts (within the competency assessment environment) and exploration of phenomenon within them is guided by both theoretical and empirical logic (Mason, 2002).

Purposive sampling is concerned with constructing a sample which is meaningful theoretically and empirically, because it builds in certain characteristics (Mason, 2002). The sample of participants

selected as participants of the study is purposefully driven, as participants of the study need to have certain characteristics;

- 1) Experience of IPD competency assessment as an aspiring professional accountant

and/or

- 2) Experience and responsibility of assessing the professional competency of aspiring professional accountants.

Accounting professionals purposively selected share these characteristics and represent all six UK PABs within the assessment environment. Each group that shares these specific characteristics i.e. assees/assessors/third party assessors represents a specific unit (Bryman and Bell, 2007) within the assessment context.

Below is a table summarising the participants (by group) sampled who have taken part in the study;

Participant		PAB	IPD Employer	Year Qualified
Aspiring professional accountant (assesees)	#1	ICAEW	Big Four	n/a
	#2	ICAEW	Small practice firm	n/a
	#3	CIPFA	Large public sector	n/a
	#4	ACCA	Large public sector	n/a
	#5	AAT	Medium private sector	n/a
Workplace assessors	#1	ACCA	Medium public sector	2003
	#2	ACCA	Large public sector	2012
	#3	CIPFA	Medium public sector	1995

	#4	ICAEW	Small practice firm	1981
	#5	ICAS	Big Six	1989
	#6	CIMA	Small medium enterprise	2008
	#7	ACCA	Big Eight	2008
	#8	ACCA	Small practice firm	2003
	#9	ICAS	Big Eight	1969
Academic assessors	#1	ACCA	Big Eight	1984
	#2	ACCA	Big Eight	1979
	#3	CIPFA	Large audit firm	1985
	#4	ICAEW	Big Eight/small practice	1980
	#5	AAT	Big Eight	1987
	#6	ACCA	Large private sector	1993
	#7	CIMA	Large private sector	1997
	#8	ICAEW	Big Eight	1986
PAB Representatives (Director of Education/Development Manager/Test of Professional Skills subject controller)	#1	AAT	n/a	n/a
	#2	ACCA	n/a	n/a
	#3	CIPFA	n/a	n/a

	#4	ICAS	Big Four	2008
	#5	CIMA	Large private sector	1987
	#6	ICAEW	Big Eight	1996
IAESB Representatives	#1	AAT	n/a	n/a
	#2	ICAEW	Large private sector	1999
	#3	CIPFA	Large public sector	1997
	#4	ICAS	Big Eight	1986

Table 10. Participants sampled for interview

Importantly, all participants currently work across a range of organisations in differing size, sector and market positioning.

As mentioned earlier in the thesis, it is important to recognise the different social structures and contexts within which participants interact within the assessment environment. Some participants selected have experience of working in the “Big Four” firms. Many participants held training contracts when they were aspiring professional accountants. Others held graduate jobs during their training. Some participants were simply employed into jobs that enabled them to carry out work deemed “relevant” by their PAB for the purpose of professional competency assessment. Some have experience of working in public sector, private sector, practice and the voluntary sector. Several participants have previously held positions on PAB education and exam committees, assessment committees and training committees. IAESB participants are involved in drafting and approving IES and all have senior roles in either industry or education.

A fundamental ontological principle of critical realism underpinning the study requires that a range of different social actors, who have experienced interactions in different social structures across different time and space horizons is preferable.

Ethnographic information

Participants selected to take part in the study are UK trained aspiring professional accountants (assesseees) and UK trained assessors. It is important to note, that although they may not be UK based, they are UK trained. All participants interact within the practical assessment environment. They have all experienced competency assessment in IPD, through practical experience assessment in UK. Their experiences shape their interpretations of reality and their perceptions and interactions with technology in the assessment environment.

Whilst it is not claimed that the study is an ethnographic study, it does adopt ethnographic features. An ethnographic study requires the researcher to step into the skin of the research subject and walk around in it. However, an ethnographic *approach* is one where the researcher listens and analyses spoken discourse and narratives, collecting and interpreting visual materials, collecting life histories and so on" Atkinson et al (2001, p.88). An ethnographic approach seeks to be holistic in approach. It is proposed that the study is in-depth, holistic and contextual. In short, a holistic approach seeks to avoid tunnel syndrome (Bertraux and Thompson, 1997). Tunnel syndrome essentially means ignoring the significance of physical, social and political context, looking at a single point in time and ignoring the interdependency of different aspects of social phenomena impacting on interactions between participants and their experiences within the context of the study.

Participants will share experiences and beliefs relating to judgment inferences about the competency of aspiring professional accountants, how competency is evidenced and the mediating role of technology within this assessment context. It is during these discussions that the theoretical proposition is tested and a collective sociological understanding of verifiable evidence is determined.

Experiences gleaned from a range of contexts (professional education and workplace) within the assessment environment is important in order to capture data relating to a range of contexts in which the phenomenon is observed. This is important not just for the validity of the study but to

ensure that the emergent conceptual model is transferable across a range of domains and jurisdictions.

In spite of all these differences, the commonality of all participants purposively selected to take part in the study is they all have experience of professional competency assessment, albeit in different contexts. By interviewing different participants with these shared characteristics, a good understanding of the context and social structures in which assertions, opinions, values, beliefs and perspectives of professional competency assessment and the mediating role of technologies have been formed is gained.

Sampling

Bertaux (1981) suggests that fifteen is the smallest acceptable sample size in qualitative research (p.35). The concept of saturation is one that suggests that the researcher has reached the point of diminishing returns in qualitative research. Dey (1999) suggests that the concept of saturation is inappropriate, whilst Strauss and Corbin (1998) explain that saturation is “a matter of degree.” (p.136).

Mark Mason carried out an investigation in 2012 to determine the sample size that should be used for PhD studies which determined that 80% of the 2,533 qualitative studies reviewed had used sample sizes of 20 or more, with the mean average for case study research being 33 and for action research 17. It is clear therefore, that there is a varied range of sample size considered appropriate for PhD studies. There are a range of factors impacting on the sample size of the study ranging from expertise of the researcher, nature of the research, the scope, design, topic, quality of the data etc. (Ritchie & Lewis, 2003).

However, importantly, Mason’s (2012) conclusion reaffirmed that often PhD students select a sample size that they believe they can defend rather than when they feel their work is actually complete. It is for this reason that the sample size that was originally selected was a provisional

sample size of 20. My view was that the sample size was to be increased if I felt that my research was not complete e.g. if the theoretical proposition is inconclusive based on discussions with participants and a consensus not reliably reached. I stopped interviewing when I started to get a repetition of the same evaluations and the “newly discovered” did not add anything to the theoretical proposition, framework or model. This stage was reached with a sample size of 32.

It is important to note that the accounting professionals sampled for this study are recognised as experts of their own experience. The study recognises that people’s own knowledge is valuable and people are regarded as agents, capable of analysing their own situations and designing their own solutions. (Cornwall and Jewkes, 1995, p.1670). It is this assumption that means the case study strategy employed adopts a participatory approach in which accounting professionals as agents contribute to the development of the theoretical framework of competency assessment and conceptual model to operationalise the framework.

3.2.4.1 Participatory Research (PR)

PR research draws on principles from the formative influence of Paulo Freire’s (1968) work in education. A Freirean approach is directly concerned with the relations of power which permeate relations between the researcher and those whom it involves and concerns.

Chisholm and Elden (1993) explains that in a PR approach the role of researcher is altered where the key element is sharing the power of decision making (Macaulay et al, 1999) to enable participants are involved in the development of knowledge. It requires that the researcher relinquishes some power and control over the research study design and use of research outputs to social actors. It is intended that the participating accounting professionals will work collaboratively with me and co-operate through the research process to achieve the research aim. In doing so, the researcher and participants come together in an engaged scholarship way. Van de Ven and Johnson (2006) define engaged scholarship as “as perspectives and competencies to co-produce knowledge” (p.803).

“PR embraces the experience and partnership of those we are normally content to measure.”

(Schwab & Syme, 1997, p.2050).

Cornwall and Jewkes (1995) argue that a key element of PR lies not in the methods but in the attitudes of the researcher which in turn determines how by and for whom research is conceptualised and conducted (p.1667). PR begins with peoples’ problems (Park, 1999) and aims to benefit both development of knowledge and is motivated by action and ends with action (p.148)

Some of the problems identified at the beginning of this study reflect my Meijer and Verloop (2004) suggest that a person’s identity is not fixed but relational, in that it changes in different contexts own bias. I cannot emancipate myself from the study or adopt a partisan position. My experiences as a professional accountant, workplace mentor and accounting academic means that I do have values that are integral to the research study itself. However, this lack of independence from the study does not mean that the claimed evidence from findings of the study should be deemed invalid and discarded. Theorists such as Hammersley (2000) affirm that developing a partisan position is unconvincing and Lawson (1999) argues that ‘objective’ knowledge can be produced from differing standpoints.

The study attempts to frame the concepts underpinning the observations made by participants into a conceptual model adopting an alternative evidence centered approach that, “might provisionally work as at least a partial condition for a type of event, act, relationship, strategy, etc.” (Strauss, 1987, pp.11). The model is to be developed through collaboration and collegiate working during the research process with sampled accounting professionals, all of whom have experience of and/or responsibility for competency assessment of aspiring professional accountants.

These accounting professionals will participate in the research study in exercising different levels of engaged scholarship. In adopting a PR approach there are three issues which become apparent; participation, the method and power (Bourke, 2009).

The following diagram is a framework of the PR approach in the case study, detailing the scope of participants within the study and their power relations.

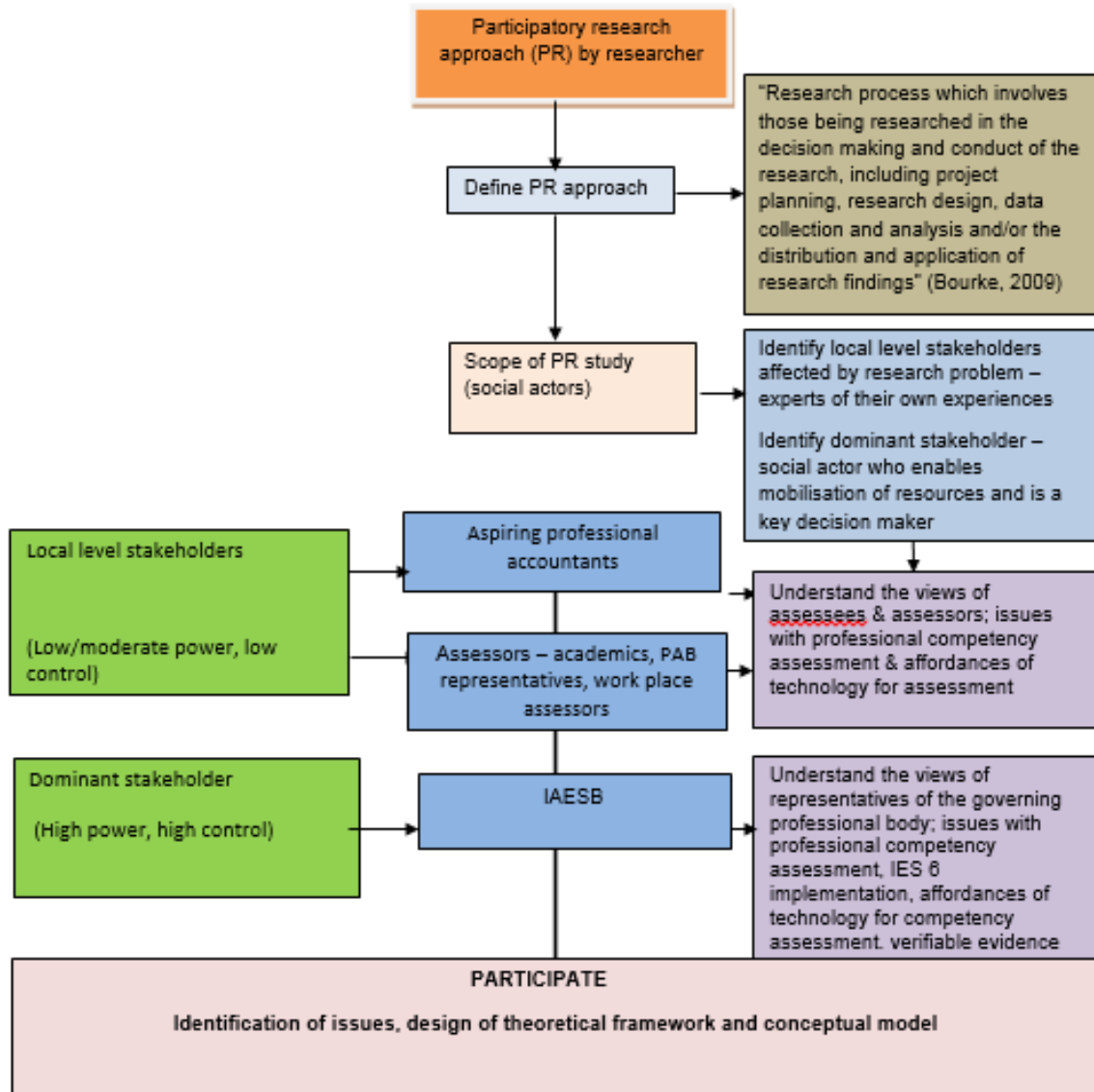


Fig 17. PR approach employed within case study strategy

PR assumes that all participants are the experts of their own lives and create knowledge collaboratively (Wahab, 2003). Cornwall and Jewkes (1995) explain that the PR process involves sharing power and control with participants. Power is not unidirectional or hierarchical but dynamic, complex and a process of negotiation (Lockie, 2001). The PR approach to this research study empowers social actors impacted by the research problem to help provide solutions to the research

problem. A framework suggested by Biggs (1989) defines four different participation levels; contractual, consultative, collaborative and collegiate.

- 1) Contractual (The researcher contracts with the research subjects to provide participation)
- 2) Consultative (There is a hierarchal relationship in which the lower hierarchy (researcher) consults with the higher hierarchy (research subject))
- 3) Collaborative (The researcher and social actors of the study i.e. research subjects are partners and work collaboratively)
- 4) Collegiate (The researcher actively encourages the participation of the research subjects)

The social actors taking part in the research study have varying levels of participation and power within the context of professional competency assessment.

Social actor	Participatory role
Assesse	Collaborative
Assessor (academic)	Collegiate
Assessor (workplace)	Collegiate
Assessor (PAB representative)	Contractual
IAESB representative	Consultative

Table 11: Participation levels of accounting professionals in the case study

Their knowledge and experience of professional competency assessment is shaped by different experiences. Importantly, experiences, opinion, perspectives are constructed within different hierarchal structures and power relations within the assessment environment. These observations are specific to the case study context within which the phenomenon is investigated.

3.2.6 Research Design

The research design of the study is a critical part of the methodology, as it outlines the way in which data will be collected and collated in order to answer the research questions posed by the study.

Strategies in the research design involve narrative, inquiry and evaluation.

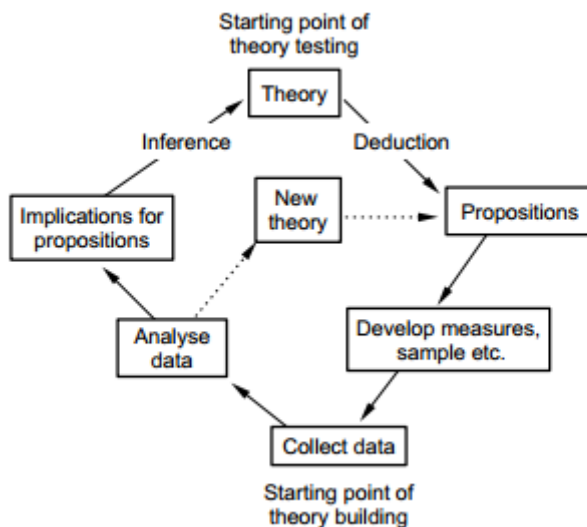


Fig 18. Ref: The Context of Design, n.d (p.14)

“Research design deals with a logical problem and not a logistical problem.” (Yin, 1989, p.29).

In order to address the research, question the research design of the study needs to provide the following;

- 1) A collection of different sources of data is analyzed. Through interpretations of the data a theoretical proposition is formed.
- 2) A theory-informed, theoretical framework is framed which is used to ‘test’ the theoretical proposition to affirm the theoretical proposition or develop further theoretical proposition(s) within the specific context of the study

- 3) Further analysis of the (empirical and theoretical) data to generate a plausible account or explanation of a set of observations relating to verifiable evidence construction within a technology-mediated competency assessment environment
- 4) New theoretical inferences generated in 3) is framed into a reframed theoretical framework
- 5) Operationalisation of the reframed theoretical framework is provided in the form of a conceptual model.
- 6) The conceptual model is validated by third party assessors

The following section explains the method employed to collect data in order that these requirements are met to address the research question.

3.2.7 Research Methods

Bryman (1988) suggests that the basic choice of methodological approach, between quantitative and qualitative techniques, is largely influenced by the type of research question being asked.

Quantitative method

Aliaga and Gunderson (2000), describe quantitative research as, explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics).

Quantitative research is essentially about collecting numerical data to explain a particular phenomenon. This method is often used in positivist studies.

Qualitative method

A qualitative approach can be judged to be appropriate when the research sets out to investigate phenomena that are not easy to quantify or measure accurately (Hoepfl, 1997). He goes on to note that "qualitative inquiry accepts the complex and dynamic quality of the social world" (p.2). This method is often associated with post positivist studies.

Rationale for qualitative method for this study

Strategies used in the qualitative research method involve inquiry such as narratives, phenomenology, ethnographies, grounded theory studies, or case studies (Bahari, 2010). Snape and Spencer (2003) suggest that in qualitative research, the researcher should focus on the dynamics of the process and requires deeper understanding of behaviour and the meaning and context of complex phenomena. Mason (2002) proposes that this is the most appropriate approach for studying a wide range of social dimensions whilst maintaining contextual focus.

It is acknowledged that there is no value in attempting to measure or search for statistical significance of personal accounts, descriptions and opinions on the role of technologies in mediating competency assessment. The interplay between professional competency assessment actions in constructing evidence in a technology-mediated environment and assessment judgments made based on this evidence, coupled with the interpretations of these actions is complex and multi-faceted. Capturing data in order to interpret the complexity of the interplay requires a qualitative focus rather than quantitative one.

Roshan and Deeptee (2009, p.6) cite a number of reasons for using qualitative method approach, which also seem appropriate for this study;

- 1) Qualitative research allows a more realistic feel of the world that cannot be experienced in the numerical data and statistical analysis used in quantitative research
- 2) Qualitative method provides flexible ways of collecting, analyzing, and interpreting data and information.
- 3) The use of primary and unstructured data gives qualitative research a descriptive capability

Brydon-Miller (2001) explains that participatory research studies move away from positivist principles of objectivity to research frameworks that construct knowledge and often involve the

integration of multiple research methods. Anderson-Gough et al (2001) conducted a study on the professionalising of training accountants and explains research, “typically entails some sort of qualitative methodology because much of the detail lies in informal and tacit processes and knowledge” (p.41)

Hence, it is determined that a qualitative approach is most appropriate for this study. The next question to consider where and how data is collected in order to address the research question.

3.2.8 Data Collection

There are several different data collection methods associated with qualitative research interviews, observations, and review of documents (Creswell, 2009, Locke, Silverman, & Spirduso, 2010).

Creswell (2003) places the data-collecting procedures into four categories: observations, interviews, documents, and audio-visual materials. PR commonly adopts qualitative methods, often face to face interviews and focus groups (Campbell, 2002). It reduces the researcher’s position of power as expert because power and control over the research process is shared with participants who want knowledge. Wahab (2003) explains that this is important because knowledge is created by those who have experienced it.

- **Interview**

The interview is undoubtedly the most common source of data in qualitative studies (Thomas et al, 2015). They explain that a person-to-person format is most prevalent, but occasionally group interviews and focus groups are conducted. Interviews provide an opportunity for dialectic exchange and enable the exchange to be structured and ordered or flexible and fluid. Merriam (2001) suggests that interviews are usually flexible and less structured.

- **Focus groups**

A collective of social actors sharing some common characteristics are interviewed collectively.

In his 1996 book *Focus Groups as Qualitative Research*, David L Morgan discussed the applications of focus groups in social science qualitative research. Patton (2002) explains that one of the issues associated with focus groups is participants' unwillingness to share their real views with each other, although discussion can of course stimulate thinking.

Data collection method appropriate for this study - Interview

In order to answer the research question, the data collection strategy of the study must gather different discourses and collective actions relating to professional competency assessment by a range of accounting professionals. The mediation of discourse through data collection in this way enables conjecture on how professional competency assessment might be developed to incorporate the construction of verifiable evidence on which assessment judgments are to be made. This is a critical feature of the "abductive induction" stage of the research process. It is here that subjective judgments are applied to unite the observations framed into the theoretical framework and validate the conceptual model as a workable operationalisation of the theoretical framework.

Berghold & Thomas (2012) assert that methods of data collection have to build on participants' everyday experiences. In addition, the data collection methods selected for the study recognizes the role of participants as co-researchers in the data collection process. The iterative nature of the abductive study and need to understand (not measure) each person's motivations, personal history and biography, experience etc. in order to understand their experiences through their own lens of experience, means that focus groups are not appropriate.

Mason (2000) explains that in depth interviews is one of the most commonly recognised forms of qualitative research. He goes on to state, "if you choose qualitative interviews it may be because your ontological position is that peoples' knowledge, views, understanding, interpretations,

experiences and interactions are meaningful properties of the social reality that your research seeks to explore...most importantly, you will be interested in their perceptions.” (p.63)

As explained, the perceptions of accounting professionals’ social realities of professional competency assessment and the mediating role of technology in this assessment context is a crucial aspect of the study. It is therefore proposed that in-depth interview is an appropriate data collection method in order that qualitative data can be captured for analysis.

Structured, semi-structured or unstructured interview?

Data will be collected that is analysed to interpret patterns, structures/configurations and biases of experiential knowledge articulated by participants relating to the phenomenon being explored. In order to ensure that the data collected enables exploration in the way required to meet the research aims, the three fundamental types of research interviews: structured, semi-structured and unstructured are to be considered.

Structured

Structured interviews are used in research designs that aim to describe or explain general patterns and events (Mishler, 1986). They are associated with testing of hypothesis in relation to law-like generalisations and positivist studies. They are of little use if, as is the case in this study, depth is required.

Semi-structured

Semi-structured interviews are generally employed when a researcher intends to both explain and explore aspects of the interview(s) in more profundity. It enables discussion on the context within which interviewees’ perceptions and decisions are formed and informed (Kvale and Brinkmann, 2009)

Unstructured

Unstructured interviews do not reflect any preconceived theories or ideas and are performed with little or no organisation (May, 1991). Gill et al (2008) suggests that their use is generally only considered where significant 'depth' is required, or where virtually nothing is known about the subject area (or a different perspective of a known subject area is required).

Rationale for data collection method of this study – Semi-structured interview

Clough and Nutbrown (2007) explain that the effectiveness of interviews depends heavily on the communication skills of the interviewer. Interviews can be placed somewhere between structured use of “closed” questions – based on survey or questionnaire or be “open” and unstructured placed somewhere closer to observation (Cohen et al, 2007).

Semi-structured interview enables participants to articulate their experiences in their own words, but also enables the development of trust & rapport and to probe and question in a way that cannot be done with a survey (Rubin and Rubin, 2005). It is consistent with both emancipatory and participatory models. Opie (2004) refers to the importance of interpersonal skills and the relational aspect of trust which is needed between interviewer and participant.

This PR study, seeks to involve all participants of the study as contributors to the research process. As such, participants are involved in different ways to identify scope, issues and information pertaining to the research problem. Participation in the research process means activeness, choice and the possibilities of that choice being effected (Cornwall & Jewkes, 1995). Participants are recognised as agents of change; capable of problematising and providing solutions to the research question in a context which is grounded in experience. The involvement of assessees and assessors in this capacity enables the researcher to deduce whether the theoretical proposition has “shared truth” or not. The theoretical framework and conceptual model is developed by praxis through discussion. However, as is consistent with a case study approach, different sources of evidence are

reviewed and analysed to support the assertion of 'shared truth.' This was the approach undertaken by the influential work of Anderson Gough et al (1998), who investigated professional socialisation of graduate trainees in six large accounting firms.

Other previous research studies conducted to understand views, perspectives and interpretations of competency assessment such as those conducted by Coffey (1994) Groatorex (2003), Anderson-Gough et al (2003), Covalleski et al (1998), Grey (1994), Hamilton (2013), Kamen et al (2010) all adopt qualitative research approaches in which semi-structured interviews are used as data collection method.

The data collection method employed needs to be sufficiently open-ended to capture rich contextual data to address the research questions. An open ended, iterative-parallel and comparative analysis approach to analyzing the data is to be employed that provides a holistic case study design (Tight, 2009). This approach seeks to avoid a reductionist view of and seeks to create a richer basis for explanation and interpretation of participants' perspectives which recognizes the importance of context. Therefore, a structured interview is not appropriate as it will not capture the depth of data required to address the research question. Similarly, an unstructured interview will not focus the questions on the theoretical proposition that is to be empirically tested or the phenomenon to be explored.

Arksey and Knight (1999) explain that semi-structured interviews have a combination of fixed and open response questions. This mode of interview is appropriate as "the researcher seeks the informants' stories and perspectives and is far more open to complexity, ambiguity and things that have not been anticipated or considered" (p.232). Data is to be collected from accounting professionals relating to specific issues and possible solutions to those issues relating to professional

competency assessment that are identified by participants themselves. This is fundamental to the PR approach of the case study.

It is for all of these reasons, that semi-structured interview data will be collected from participants in order to capture data relating to diverse, rich and complex issues associated with participants' perspectives of their experiences of competency assessment. Data is collated on participants' experiences within the assessment environment to determine whether the theoretical proposition is "subjectively true." Empirical data is also used to build theory within the context of the study.

An important element to the interview preparation (and an attempt to enhance validity of the data collected) is the implementation of a pilot test. A pilot interview was conducted with one aspiring professional accountant (who was not sampled as they had abandoned their studies). Additionally, a pilot interview was conducted with a colleague whose IPD status as Affiliate meant that he had passed the PAB exams but not gained the practical work experience required to become a member (he also had no intention of doing so). The purpose of these pilot tests is to determine whether there are flaws, limitations, or other weaknesses within the interview design (Kvale, 2007). Few issues with the interview design were identified at the pilot test stage and those identified were corrected.

3.2.8.1 Semi-structured interview design

The semi-structured interview schedules are divided into different parts to address the research questions pertinent to the social group being interviewed. Questions in the interviews relating to the theoretical proposition are informed by existing theory and constructs identified in the literature review. This integration of theory-informed questions and open-ended questions is consistent with the abductive research approach, which straddles deductive and inductive approaches. These questions probe for examples of experience in using technology within the competency assessment process. Questions also ask about perceptions and beliefs motivating factors or barriers to using

technologies within the competency assessment process and specifically for the construction of verifiable competency evidence. These questions are informed by theory. Questions relating to the study's sub-research questions are "what" or "why" questions.

The interviews are ethnographic in nature e.g. details of IPD training and work histories are analysed. The interview schedule is framed to collect data about the reality of experiences, thoughts & perceptions of technology-mediated competency assessment, as well as social structures within which they have been developed. Questions are also posed regarding judgments about competency and features of materials submitted as competency evidence and perceptions of their verifiability.

Mishler (1986) explains that semi-structured interviews are used to explain and explore aspects on interviews with increased emphasis. The semi-structured framing of an interview enables participants to be guided towards the research topics or areas of the interview. In spite of the structure, participants are still able to discuss context influencing and shaping their perceptions and decisions (Kvale and Brinkmann, 2009) of professional competency assessment. Broad categories have been used when structuring the in-depth interview questions in order to enable theory building whilst enabling systematic coding and analysis. This is, again, aligned with the abductive approach to the study.

Three different semi-structured interview schedules have been used; one for each social group (see Appendices C, D & E).

3.4.8.2 Aspiring professional accountant interviews (assessees)

I started each aspiring professional accountant interview with a broad question about their professional education and IPD status. Subsequent to this was a broad question on what led them to seek a career in professional accounting. I then sought to understand their professional

socialisation experiences within the context of their training and work experience. I explored their professional competency development and importantly the ways in which their competency is assessed. In doing so, I gained an understanding of the ways in which they construct evidence for this purpose.

Importantly, assessees were able to reflect on these experiences and consider the mediating and contextual variables affecting the ways in which they construct competency materials for the purpose of assessment. They were encouraged to consider and where possible reflect on the verifiability of the materials that they constructed and submitted for assessment as evidentiary materials for IPD assessment.

Assesseees were encouraged to consider how they currently use technologies to create evidentiary materials of their professional competency. They were also urged to consider the potentiality of technologies to support some the ways in which they suggest the verifiability of evidence may be enhanced (if they deem this appropriate).

Assesseees were asked their opinions on how their competency should be assessed and on what the issues (if any) are in constructing evidence for competency assessment based on their experiences. They were then asked to consider ways in which these issues (if any) could be resolved.

3.4.8.3 Assessor interviews (education and workplace)

I started each assessor interview with a broad question about the length of time that they had been qualified as a chartered accountant for and which PAB they are a Member/Fellow of. I then moved onto their lived experiences of becoming a qualified professional accountant in both professional education and workplace domains. Assessors were then invited to talk in detail about their experiences of higher education, training education and work experiences as aspiring professional

accountants, as well as their progression into the labour market. I adopted a chronological approach to the order of questions asked, providing opportunity for reflection on experiences as an aspiring professional accountant to experiences in their present professional work roles, incorporating their roles as assessors. They were then required to reflect on their experiences of evidence construction and their use of technology to do so, as part of their training and development now. They were asked to reflect on the verifiability of their competency evidence constructed historically as aspiring professional accountants. The interviews allow for discussion of individuals' experiences of constructing evidentiary materials for practical experience assessment. These experiences are as either assessee and/or practical experience assessors. It is during these discussions that assessors discuss the mediating role of technology.

Data collected in relation to orientation of assessment is grounded in the experience of assessment practice of assessors. The assessment practices experienced by assessors will shape their beliefs about what constitutes competency in an aspiring professional accountant and what knowledge should therefore be acquired and assessed. This is coupled with beliefs about the ways in which such knowledge should be taught and learned; an integral part of the assessment environment.

3.4.8.4 PAB representative interview

PAB representatives are Directors of Education (n=4), Development Manager (n=1) and Test of Professional Skills subject controller (n=1) make up the six PAB representatives. They are engaged in a consultative rather than collaborative or collegiate way. The reason for this was an acknowledgement during initial contact with them that they are resistant to the proposition of an alternative assessment approach. Consequently, they are engaged in the study in order to corroborate and provide knowledge of the ways in which technologies are currently mediating IPD assessment and may do so in the future.

The interview schedule used in these interviews is not informed by theory but does require a corroboration of observations made regarding social structures and policy relating to IPD competency assessment (particularly within the context of IES 6).

These interviews provide a sense of the motivations for the current PAB competency assessment approach and PAB level “horizon scanning” of IPD competency assessment which is very important in considering the current and future context of the conceptual model being developed. The PAB interviews are used more as a form of corroboration of interactions within the assessment environment and the current and potential role of technologies within the assessment process.

3.4.8.5 IAESB representative interview

Semi-structured interview is used to collect data from IAESB representatives to validate the conceptual model developed through the study. Validation of the conceptual model uses subjective judgments of these key competency assessment decision makers.

This interview schedule is not informed by theory or constructs (although the model they are validating is). It is the case therefore, that validity is a process rather than just outcome. Validation, analysis and design of the conceptual model (and associated theoretical framework) are integrated. The process of validity seeks to evaluate whether the model is adequate, sufficient and useful for the purpose of professional competency assessment within the context of IES 6.

3.4.8.6 Mapping of different research questions for different participant groups

A mapping of the research questions and associated underlying validated constructs, mediating and contextual variables used in the theory-informed schedule for assessees and assessors (workplace & education) is provided below.

RQs addressed by assessees and assessors (workplace and education)

Social Group	Data Collection Method and broad categories/constructs (Semi-structured interview & documentary analysis)	Data Analysis method (Thematic analysis)	Research sub-questions answered
Assesseees - aspiring professional accountants (n=5)	Semi-structured interview using principles of Mediation of Technology based on technology presence (capabilities) Mediating variables; efficacy, perceived ease of use and perceived usefulness Contextual variables; experience, assessment process, (employing) organisational support – based on Structuration theory model (SMT) & Validated affordance constructs of affect, attitude, intrinsic motivation and extrinsic motivation (Ventkatesh et al	Thematic analysis is an approach that enables the identification of emergent topics not explicitly stated in interview questions.	What is the role of technology in mediating the professional competency assessment process?

	<p>(2002) Argawal & Karahanna (2000), Davis (1989)</p> <p>No theoretical underpinning</p>	<p>Thematic analysis is used to categorise key themes relating to beliefs, perspectives, opinions relating to mediating variables, contextual variables and affordance constructs</p>	<p>What are the issues associated with using technology for the construction verifiable evidence?</p>
<p>Assessment community Assessors (n=17)</p>	<p>Semi-structured interview – framed using 6 sets of beliefs identified by Samuelowicz and Bain (2002) - orientation of assessment</p> <p>Content knowledge, process of inquiry, attitude towards</p>	<p>Thematic analysis is used to categorise key themes relating to beliefs, perspectives, opinions relating to orientation of assessment variables and conceptualisation of the phenomenon of</p>	<p>Are the materials submitted (work products) for assessment within the by the aspiring professional accountants considered as fit for the purpose of professional competency assessment by the</p>

	learning measurement, performance and informal assessment	professional competency assessment	Assessors?
	No theoretical underpinning)	Thematic analysis is an approach that enables the identification of emergent topics not explicitly stated in interview questions. As above (Thematic analysis)	What are the issues associated with using technology for the construction verifiable evidence? What are the issues associated with multiple actors making judgments about the professional competency of aspiring professional accountants based on evidence recorded in a technology mediated environment?

Table 12. Constructs underpinning data collection instrument for assessees and assessors (education and workplace)

Both assessees and assessors use technologies in their everyday lifeworld and thus, it is assumed in their professional work. The questions posed to accounting professionals seek to “prove” the theoretical proposition and discover and explore themes to enable the identification of emergent topics not explicitly stated in interview questions. Some of the same questions are asked across both assessee and assessor groups in order to provide some triangulation and breadth of analysis.

However, notably, questions relating to judgments of competency and materials submitted as evidence i.e. not associated specifically with technology are not informed by theory. This is because whilst, the study adopts a position that technology mediates everyday lifeworld as generalisable theory from which a theoretical proposition applicable to the context of competency assessment is formed; there is no such generalisable theory relating to competency evidence. The literature informs us that the use of evidence for competency assessment is not generalisable and is in fact very contextual. Thus, the data relating to construction of evidence for competency assessment is collected via an abductory induction approach to identify observations and subjective judgments specific to the context of the case study. In doing so, it is the empirical data allied with theory from the literature that drives the theory formulated in the study.

The table shows the research questions that are not theory-informed and that generate observations that are driven by the data. It is from these questions that new categories and associated codes are likely to be generated.

RQs addressed by PAB and IAESB representatives

Social Group	Data Collection Method and broad categories/constructs	Data Analysis method	Research sub-questions answered
PAB representatives n=6	No theoretical underpinning	Thematic analysis is used to categorise key themes relating to beliefs, perspectives, opinions relating to orientation of assessment variables and conceptualisation of the phenomenon of professional competency	Are the materials submitted (work products) for assessment within the by the aspiring professional accountants considered as fit for the purpose of professional competency assessment by the Assessors?

	As above (no theoretical underpinning)	assessment Thematic analysis is an approach that enables the identification of emergent topics not explicitly stated in interview questions.	What are the issues associated with using technology for the construction verifiable evidence?
	As above (no theoretical underpinning)	As above (Thematic analysis)	What are the issues associated with multiple actors making judgments about the professional competency of aspiring professional accountants based on evidence recorded in a technology mediated environment?
IAESB Representatives (n=4)	No theoretical underpinning	Thematic analysis is an approach that enables the identification of emergent topics not explicitly stated in interview questions.	Does the use of technology mediated environment enable the construction of verifiable evidence on which valid judgments about the professional competency of aspiring professional accountants

			are to be made by third parties?
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Table 13: Research questions addressed by PAB and IAESB representatives

The questions asked of PAB and IAESB representatives are not underpinned by theory or constructs and are very open-ended, although the interview schedule itself is semi-structured. These interviews were used as an opportunity to develop, review and evaluate the technology-mediated professional competency assessment theoretical framework and associated conceptual model to determine their validity for use in practice settings.

Each interview is electronically recorded as all participants signed a consent form (see Appendix B) to permit me to do so. I took brief notes during each interview to refer to and make note of any new themes. I was clear in my assertions to all participants that my interest in their thoughts, experiences and beliefs expressed in interviews is solely for research purposes and that there is no commercial value to be gained from the study. All participants were informed that each interview would be treated as confidential and anonymised. They were assured that consequently; data would not be traceable to them as an individual or the organisations for whom they work. PAB representatives' quotations have also been anonymised.

The next section looks to how the data collected is analysed.

3.2.9 Data Analysis

Quantitative data v Qualitative data analysis

Schwandt (2007) defines data analysis as “the activity of making sense of, interpreting, or theorizing data.” (p.6). Hatch (2002) asserts that data analysis is a way to process qualitative data so that data

flows to others and in this way, researchers can see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories through synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding.

Quantitative data analysis is often (in rather over-simplistic terms), regarded as objectivist, arising from a positivistic philosophical view. This form of analysis is commonly used in deductive studies. However, despite this study having an element of deduction, it is not appropriate to process qualitative data as quantitative for the purpose of analysis. The study does not seek to identify causal and inferred relationships between different assessment variables. The deductive element of the study simply seeks to identify “subjective truth” of the theoretical proposition. Therefore, measurement in a quantitative way will not address the research question. It is a reductionist approach to exploration of the phenomenon under investigation.

Rationale of Qualitative data analysis for this study

In order to achieve the aims of this study and address the research question systematic, holistic, qualitative analysis of the data is required. Qualitative data analysis is particularly well suited to understand the origins and social contexts of accounting (Lee and Humphrey, 2006). Qualitative data analysis provides rich accounts and interpretations of the understandings, perceptions, and beliefs of accounting professionals within different social structures in the assessment environment. As such, it is deemed the most appropriate data analysis method for this study.

Qualitative data analysis of rich accounts provided in interview data and sensitizing concepts from the literature requires that codes are generated, the purpose of which is to identify patterned coding for analysis. Miles and Huberman (1994, in Saldaña, 2009) explain that pattern codes can pull together and group into summaries, themes and constructs.

It is the case that codes from the qualitative data are used to draw out socially constructed meaning of perceptions, beliefs and experiences of the role of technology in mediating the competency assessment process and its use to construct competency evidence. The codes are used to look for (but not measure) causes and explanations in the data, examining human relationships within social networks.

As is reflective of the deductive aspect of the study, a pre-defined (piori) coding list of static codes is developed from a review of the literature before interviews are conducted. This forms the basis the analysis of data relating to testing of the theoretical proposition underpinned by a general theory of technology mediation. Interpretation of the codes starts with, a 'thick description', which is further analysed to identify major themes from the data and associated explanations. These interpretations are used to reframe the initial theoretical framework initially developed from the literature review.

The initial coding list is developed from constructs from research studies identified in the literature review as relevant to the study. However, during the interviews and analysis stages of the study, "data is reinterpreted in light of emerging theoretical ideas, and this may lead to further questioning, the entertainment of tentative hypotheses and a search for answers" (Blaikie, 2010, p.156). This means that the coding list becomes a dynamic, rather than static coding list. The majority of qualitative researchers will code their data both during and after collection as an analytic tactic, for coding is analysis (Miles & Huberman, 1994, p. 56).

Following an initial "testing" of the theoretical proposition, observations, thoughts, perceptions, ideas, and experiences of assessees and assessors are further analysed to refine the theoretical framework developed at the end of the literature review and frame a conceptual model. Interview data from PABs and IAESB representatives is analysed to provide corroboration and validation of a conceptual model developed. The data collection adopts, at this stage of the study, an 'abductory induction' approach in which it is the data that drives the theory that it emergent. However, it is

through this 'abductive induction' approach that evaluation of the technology-mediated evidence based competency theoretical framework and conceptual model is validated.

3.2.9.1 Rationale for thematic analysis

Different analysis methods

There are a variety of qualitative data analysis methods that may be considered as appropriate for the study; discourse analysis, content analysis & thematic analysis.

Discourse analysis

Discourse analysis is about using the way in which people talk; language in use, or the way language is used in a social context to 'enact' activities and identities (Gee, 1990). The articulation of experience is not a significant or important feature of analysis required for this study. It is more critical to understand the interpretations and meanings of storied experience and social realities experienced within the assessment environment. Hence, discourse analysis is ruled out.

Content analysis

Content analysis refers to a general set of techniques that is useful for analysing and understanding collections of text (Graneheim et al, 2004). Although the analysis of the content of various documentary materials is an important feature of the case study approach adopted, the analysis of text is only a small part of the analysis process. These materials are used largely for triangulation purposes to enhance the validity, dependability and credibility of narrative accounts provided by accounting professionals. Given these reasons, content analysis is not deemed appropriate as a means of data analysis for the study.

Thematic analysis

Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data (Braun and Clarke, 2006). It also often goes further than this, and interprets various aspects of the research topic (Boyatzis, 1998). Braun and Clarke (2006) explain that thematic analysis minimally organises qualitative data set in rich detail by adopting a theoretically flexible approach. They go on to explain that a theme captures something important in relation to the research question and represents some patterned meaning or response in the data set (p.82).

Rationale for data analysis method chosen for this study – thematic analysis

A data analysis method is required that effectively analyses the experiences of accounting professionals within different contexts in the assessment environment. It is important that the analysis method employed is able to identify patterns and recurring themes as a means of “testing” the theoretical proposition. In addition, in order to determine “subjective truth” in answering the research question, a collective and sociological understanding of the phenomenon under investigation is required. This requires identification of recurring and prevalent themes emergent from analysis of the data.

It is therefore the case, that thematic analysis is considered the most appropriate data analysis method for the study, given its research design. “With thematic analysis it is more likely that valid themes will emerge if questions are framed in a non-leading, open manner, following a ‘funneling’ format in which participants are encouraged to share their beliefs, perceptions, and experiences with as little prompting as possible before probing more specific queries” (Roxburgh and Roe, 2009, p.350).

To perform thematic analysis, Aronson (1994), advocates the following;

- 1) Collect data – Audiotapes should be collected to study dialectic exchange of an ethnographic style of interview. Conversations are transcribed to identify patterns of experiences that can be listed, which can come from direct quotes or paraphrasing common ideas.
- 2) Related themes are catalogued into sub-themes. This, according to Aronson (1994), is done by identifying and bringing together components or fragments of ideas and experiences, which often are meaningless when viewed alone.
- 3) Build a valid argument for choosing themes, which is informed by the literature review. By referring back to the literature, the interviewer gains information that allows him or her to make inferences from the interview.

Synopsis of thematic analysis

The steps to carrying out thematic analysis from codes to themes/theory are followed using Braun and Clarke (2006) six step approach.

3.2.9.2 Step 1 - Becoming familiar with the data.

The first stage of the data analysis process, is familiarity with the data. In practice this means reading material on PAB websites, undertaking an initial literature review and reflecting on my own experiences of competency assessment. Following on from this, will be familiarising myself with interview data and documentary materials provided by participants to supplement the discussions during interviews.

3.2.9.3 Step 2 - Generating initial codes.

This is an iterative process of reviewing the interview data to generate issues that have a recurring pattern. The issues raised in all the interviews are coded accordingly. Open codes (that focus on

verbatim interview text) are used to relate data to the participants' conception of competency assessment and construction of verifiable evidence. Significantly, the focus at the initial stage of analysis is on the mediating role of technology within this context.

A 'good code' is one that captures the qualitative richness of the phenomenon (Fereday and Muir-Cochrane, 2006, p.4). Coding is not just labelling, it is linking: "It leads you from the data to the idea, and from the idea to all the data pertaining to that idea" (Richards & Morse, 2007, p. 137).

The conceptual meanings have been analysed using this technique to identify themes. This was achieved in the following way;

- 1) Analysis of expressions (codes) that are repeated in the interview data
- 2) Sense making of stories or metaphors
- 3) Analysis of expressions of comparison, contrast and difference
- 4) Connecting words and phrases that indicate conditional relations
- 5) Sense making of interactions, experiences, conditions and consequences within specific contexts (this requires going back to the literature to apply theory related material)

Rationale for hand coding

In adopting an abductive approach, an iterative process of referring to the interview data, interacting with it to make sense of the data and provide meaning and interpretation of ideas through interacting with the data and literature is undertaken. This process of engagement and review enables me to make judgments regarding categories, or themes that could be used to explain phenomenon of professional competency assessment, the role of technologies as mediating tools in the assessment environment and the construction of verifiable evidence in this context. It is for this very reason, as a novice researcher, that I decided to analyse the interview data using hand-coding rather than a computerised or technology based system.

Analysing qualitative data can be time consuming and labour intensive, Lofiland (1971) Bogdan and Bilken (1982). They describe basic procedures of manual coding such as using different methods such as cut- and paste and note cards.

Contemporary computer aided packages such as Atlas, NUD*IST (Non-numerical Unstructured Data, Indexing Searching and Theorizing) and its latest version NVivo have made qualitative data much more systematic, possibly easier, clearer and definitely less time consuming to analyse. However, despite the undoubtedly powerful capabilities of the technology, my over-riding thought is that the technology simply creates the codes based on the data that I input. It does not do the analysis. It is very important for me in terms of understanding and making sense of the data but also my personal development as a researcher, to develop my ability to develop themes from codes and theory from themes. Thus, I decided to hand code the data. In spite of the trend in computer developments for qualitative data analysis many researchers according to Hammersley and Atkinson (1995) continue to advocate manual data analysis.

Process of hand coding for data analysis

The process of coding again required numerous iterations. Abbott (2004) suggests the process of coding is like, “decorating a room; you try it, step back, move a few things, step back again, try a serious re-organisation, and so on” (p. 215).

Essentially, a short time after transcribing each interview, I inserted hand written codes directly into the text after phrases, metaphors and general prose of the transcripts. Codes were inserted on the basis of mediating, contextual, orientation assessment and technology affordance and potentiality constructs, underpinning the interview questions designed to investigate the phenomenon. A dynamic coding list was developed through this stage of data analysis.

Each section of coded dialogue in the transcribed texts was colour coded according to the codes assigned to the text. The coloured texts with respective coding inserted were copied from the

transcripts and merged into a separate document, headed using the category that the code related to e.g. text with codes prefixed with TEL were merged depending on the colour assigned. Coloured text had a label inserted onto the top of the text of AEE (Assessee) and ASR (for Assessor) to identify which social group the text was generated from. These saved documents were cross-referenced with the coding schedule developed in Steps 1) & 2). Consequently, some codes were deleted and some new codes were added in. New codes have been identified as new codes, with priori codes that didn't emerge in the data, referred to as 'absent codes'.

The text referring to the colour-coded codes are cross-referenced with other colour-coded codes and analysed to provide conceptual links within and across codes. It is important to note that these are not the themes. Themes emerge from clusters of coded data that form categories. Categories are structured by similar data; a theme, on the other hand, is a meaningful "essence" that runs through the data (Morse, 2008). The development of themes is discussed in more detail in Step 4 (See Chapter 4.1)

I decided to identify themes using eyeballing rather than computational analysis. The methods employed to identify themes are observation-based techniques. As such, added to the fact that I immersed myself in the data by conducting the interviews, transcribing them, ordering and sorting the text, I wanted to understand the richness of the relational analysis. I feel that my knowledge and experience as a chartered certified accountant, former workplace mentor and accounting academic meant that I could embrace and understand indigenous typologies (Patton, 2002, p.454). I can make sense of expressions in the data (not just identify their patterns), in a way that I could not achieve with computational analysis due to my inexperience of using technology for this purpose.

Theory informed codes.

Before the commencement of interviews, priori codes have been formulated to capture 'a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative

attribute for a portion of language-based or visual data' (Saldaña, 2009, p.3). These codes are based on my own experiences, initial documentary analysis and literature review. The validated mediating and contextual variables, orientation to assessment, SMT and technology acceptance constructs identified in the literature review underpinning the pre-formed codes are listed and summarised below;

1) **Kathryn Samuelowicz and John Bain's (2002) academics' orientations to assessment practice framework.**

This framework theorises that orientation to assessment is "a coherent pattern of beliefs inferred from, and grounded in, academics' assessment practices and their explanation of those practices." (p.176).

2) **Mediation of technology principles based on technology presence (Kiran, 2012).**

The mediation of technologies in everyday life worlds is based on both actuality and potentiality. "Technological presence, therefore, offers us opportunities, possibilities, and reveals to us potential actions" (p.93)

3) **Technology Acceptance Model; TAM (Ventkatesh et al 2002, Argawal & Karahanna (2000), Davis 1989)**

This model relates to acceptance of technologies based on behavioural intention and associated antecedents of using technology.

4) **Structuration model of Technology; SMT (Orlikowski, 1992)**

That is that appropriation of technology is also based on whether structures facilitate or constrain certain actions.

The theory informed priori codes are grouped below based on their general pattern meaning and associated code description. The priori codes relate to the theoretical proposition that is to be deductively “tested” by analysing data collected from interviews with accounting professionals. The use of thematic analysis also enables me to identify emergent topics that are not explicitly referred to in interview questions.

Priori pattern coding list (literature review, my experience)

Assessment practices/experiences (orientation to assessment)	
Code	Patterned code description
ASPTRNXP	Training experience of aspiring professional accountant
ASPWORKEXP	Experience of work as an aspiring professional accountant
ASSASPPER	Assessment of performance of aspiring professional accountant
ASSORIENT	Assessor orientation of competency assessment
ASSPROFPER	Assessment of performance of professional accountant
COMPASPSTD	Standards of competency of aspiring professional accountants e.g. proficiency levels
EXPAPRWK	Experience of appraisal of work
EXPSKILLSASS	Experience of skills assessment
Contextual, mediating variables	
Code	Patterned code description
COMPASPEVD	Competency assessment evidence of aspiring professional accountants

COMPASPEXP	Competency assessment experience as an aspiring professional accountant
COMPASPFED	Feedback based on competency assessment of aspiring professional accountants
COMPASPHOW	How should competency of aspiring professional accountants be assessed?
COMPASPJUDG	Judgments about the competency of aspiring professional accountants
COMPASPWHAT	What should be assessed to determine the competency of aspiring professional accountants?
COMPASPWHERE	Where the competency of aspiring professional accountants should be assessed?
COMPASPWHO	Who should assess competency of aspiring professional accountants?
DESPROFATTR	Desirable professional accountant attributes
DESWKMATTR	Desirable workplace mentor attributes
EVDCOMPT	Evidence of competence
POSTQPERCEP	Perceptions of the initial professional development (IPD) of Assessors now that they are qualified
VEREVDCOMPASP	Verifiable Evidence for competency assessment of aspiring professional accountant
VEREVDCOMPROF	Verifiable Evidence for competency assessment of professional accountant
Technology acceptance, technology presence/affordance	
Code	Patterned code description
SIMWRKPERCP	Perceptions of simulated work
TELACAPROF	Technology capability of professional accountant

TELCAPASP	Technology capability of aspiring professional accountant
TELCAPASPTRN	Capabilities of Technology for training of aspiring professional accountants
TELCAPCOMASP	Capability of technology for assessment of competency of aspiring professional accountants
TELCAPWRK	Capability of Technology for professional work
TELCOMPASJUDG	Judgements about the competency of aspiring professional accountants in a technology-mediated environment
TELUSASPTRN	Use of Technology by aspiring professional accountant for training
TELUSCOMPASS	Use of technology for assessment of competency of aspiring professional accountant
TELUSCOMPROF	Use of technology for assessment of competency of professional accountant
TELUSEASPWRK	Use of technology by aspiring accountants in work
TELUSECOMPEVD	Use of technology to construct competency evidence
TELUSEPROFWRK	Use of Technology for professional work
Structuration theory (structures to facilitate or constrain)	
Code	Patterned code description
TELSUPORGASS	Organisational support for the use of technology for Assessment

Table. 14 Priori- codes and description

Revised codes

Following the interviews, some of these codes are discarded and new codes are generated.

Categories are formed from the initial codes, but the use of thematic analysis, may mean that other

categories emerge as codes from interview data are added to the coding list and analysed. The non-priori codes are inductively generated through an initial analysis of the interview transcription data. These codes represent topics, ideas, concepts, phrases and keywords identified from the transcription data. Miles et al (2014) term this process as 'descriptive' coding.

Descriptive coding – Conceptual linking

CATEGORY – TECHNOLOGY

The codes relating to the sub-category of technology, relate to a range of mediating, contextual and orientation of assessment constructs, they include; function/capabilities, potentiality, values, acceptance, barriers to use, power, motivation, organisational/peer support, work practices/norms, emotions, safety, trust.

- 1) Initial code - TELUSCOMPASS (Use of technology for competency assessment)

Expressions from transcription data

Technology presence

Capabilities, access, context, blended learning objects, enhancement

Technology acceptance

Use/barriers to use, Work practice, Acceptance/compliance, Motivation, Emotion, Cognition,

Meta-cognition

Technology affordance

Practical experience recording, Access online learning materials, Portal for storing data, Online exams,

Repository to store digital data, Automation

Conceptual links

Technology is used extensively in the work of aspiring professional accountants for study, training and work. Aspiring professional accountants use technology to access online assessment resources and submit practical experience records to PABs. Technology is used to store data. It is also used to capture evidence to support the achievement of organisation set performance objectives. The requirements of which are defined the employing organisation. Thus, there is an extrinsic need for professionals and aspiring professional accountants to use technology to carry out and evidence work based activities. This practice is bound by work practices and/or PAB requirements. PABs are using new technologies to operate their professional exams online as computer based tests (CBT) to be undertaken by aspiring professional accountants. Technology is therefore being used increasingly to assess the technical competence (in the context of education) of aspiring professional accountants, which is something some academic assessors are aware of.

- 2) **New code** - TELUSERECRUIT (Use of technology in recruitment of aspiring professional accountants)

Expressions from transcription data

Technology presence
Automated assessment
Technology affordance
Automated assessment
Technology actuality
Aptitude testing, personality testing
Technology acceptance
Rigorous online testing

Conceptual links

Technology is used by large organisations for recruitment of aspiring professional accountants during the application and screening process to reduce large numbers of applicants to manageable numbers for interview. In some cases, technology is used exclusively to make judgments about who is to be recruited on the basis of inputs such as aptitude and psychometric test scores, case study based submitted reports, responses to tasks, experience based interviews.

- 3) Initial code -TELUSEPROFWRK (Use of technology for professional work – specialised work tasks)

Expressions from transcription data

Technology presence	Information gathering, processing of BIG data, analysis of data
Technology affordance	Time saving
Technology actuality	Accounts preparation
Technology acceptance	Disenfranchisement, access and ease of information (dis-intermediation)

Conceptual links

Technology is recognised as a powerful tool used in professional work to collect and process information on which decisions are made. It is used in the course of work to gather big data and process it into meaningful information. However, technology is also recognised as a tool that has enabled social and work practices that de-skill professional work of aspiring professional accountants. This is in the sense that for example, financial statements (recognised as a keystone of technical competence), are routinely produced by electronic accounting and finance systems and not manually by the aspiring professional accountant. In addition, data and information is much

more readily available to the client and agencies working within professional accounting make information that was once only privy to accountants, publicly available e.g. HMRC data files. Aspiring professional accountants, no longer have the same authority or monopoly over knowledge over the client as previously experienced by many of the assessors interviewed when they were aspiring professional accountants.

- 4) Initial code - TELCOMPASJUDG (Technology used to make judgments about the competency of aspiring professional accountant)

Expressions from interview data

Technology presence
Recruitment and selection
Technology actuality
Automated scoring

Conceptual links

Technology is used to make judgments about performance in education through CBT (Knowledge level) and CBA (Does Level). It is also used during recruitment; in some cases, being used to make recruitment decisions at the start of IPD of an aspiring professional accountant, using automated scoring (rather than human scoring) based on inputs i.e. work products into the IT system. Outputs from the IT systems are used to make selection decisions.

5) Initial code - TELCAPASP (Technology capability of aspiring professional accountants)

Expressions from transcription data

Technology actuality

Daily use of accounting systems, Regular use of reporting tools

Technology acceptance

Acceptance of new technologies, Proficient use of Excel

Conceptual links

Discussions suggest that aspiring professional accountants considered themselves 'digital natives' (Prensky, 2001.) All participants made particular references to their proficiency in using in-house accounting/audit systems and Excel spread-sheets for working papers and analysis in their work. New institutional technologies and web based platforms for competency assessment are accepted readily as necessary to complete work and evidence associated with professional competency assessment with no resistance. All aspiring professional accountants made reference to enhanced efficiency and analysis of information by using technology in their work.

6) Initial code - TELUSEASPWRK (Use of technology by aspiring professional accountant for general work)

Expressions from transcription data

Technology affordance

Flexible working

Technology actuality

Remote working

Technology acceptance

Work practice norm

Conceptual links

Technology is used to undertake work-based tasks in the workplace or in work spaces outside of the workplace e.g. offsite on an external audit. It is a tool that enables the aspiring professional accountant to work more flexibly and remotely. Technology use embedded within work practices to the extent that aspiring professional accountants cannot conduct their work without using it; for example, in organisations operating a paperless workflow.

7) Initial code - TELCAPWRK (Capabilities of technology for professional work)

Expressions from interview data

Technology presence
Simulate work tasks
Technology affordance
Useful, increase resource capacity, not bound by time or space
Technology acceptance
Potential to empower, lack of knowledge of functionality

Conceptual links

There was a shared belief that technology has the capabilities to enrich professional learning experiences. Technology is perceived by assessors as enabling aspiring professional accountants to exercise professional judgements in simulated professional learning and work environments. However, many assessors (n=6) made reference to a lack of knowledge in using the technologies in this way, although they would like to. It is perceived that technology has many capabilities and are useful, but that in practice it can be difficult to use as an effective tool due to a lack of knowledge in how to use it in the way intended.

- 8) Initial code - TELCAPCOMPASP (Capability of technologies for competency assessment of the aspiring professional accountant)

Expressions from interview data

Technology presence

Parameter/Threshold setting, Creativity of assessment, Complex assessment

Technology affordance

Create safe learning environments, interactive

Conceptual links

Technology can be used to enhance the functional and behavioural competencies required of aspiring professional accountants. This can be achieved through simulated work tasks adopting problem-solving activities. It can be used to create assessment environments in which aspiring professional accountants can “practice” and get things wrong; to develop their own attitudes and foster an inquisitiveness and creativity about accounting. This will allow them to explore and appraise the impact of different value positions and perspectives on decision-making and the social norms within a professional environment that they find acceptable.

- 9) Initial code - TELSUPORGASS (Organisational support to use technology for assessment)

Expressions from interview data

SMT

Institutional barriers to use, disempowerment

Technology acceptance

Dissuasion of use (deskilling)

Conceptual links

Technology can be an enabler or an inhibitor, depending on the capabilities of the user and the level of support provided by the employing organisation. Barriers to using technology include a lack of organisation support in providing training and/or resources and a lack of experience in using technology (“teaching an old dog, new tricks”). A perception held by some workplace assessors is that technology erodes the technical capability and understanding of the aspiring accountant and that operating manual systems enhances technical competence. An aspiring professional accountant commented that using technology took the “fun out” of preparing accounts but that she used technology to do so, because it was work practice and saved time. A lack of organisation supports to use technologies in ways perceived as valuable by those wishing to use them, left them feeling disempowered.

There are a few codes identified as priori codes which have not appeared in the interview data.

Absent codes

TELUSCOMPROF (Technology use for competency assessment of professional accountants)

TELUSECOMPEVD (Technology use for competency evidence)

TELUSASPTRN (Technology use by aspiring accountants for training)

TELCAPASPTRN/TELCAPCOMASP (Capability of technology for training/assessment of competency of aspiring professional accountants)

It is very interesting to note that social actors interviewed did not make explicit reference to capability or use of technology for competency assessment/evidence construction. Reference to technology was linked to action/activity e.g. recording CPD hours or in recruitment, to record or store work products; appraisal notes, working papers etc. Social actors did not refer to these documents created through use of technology as competency evidence. Nor was the process of recruitment for example, referred to as competency assessment.

The use of technology to create competency evidence or make judgments of competency using technology had to be interpreted or further probed in questioning to determine that this is what had happened.

In cases where technology codes were emergent in the data, the action in using technology (rather than the ensuing judgment made by the technology) is made explicit. In all cases, codes that have emerged relate to the functionality/affordance/attributes of the technology rather than the mediating role, which had to be interpreted from analysis of interactions and actions of using the technology.

Mediation

There are no codes that explicitly refer to mediation, which has to be interpreted from narratives of experience of accounting professionals interviewed. However, meaning was abstracted from analysis of technology codes that confirm technology mediates actions associated with the competency assessment process. These mediating constructs are particularly evident in codes capturing the use/capabilities/potentiality of technologies. Interpretations of which are captured in the thematic analysis (4.2) section of this chapter.

CATEGORY - COMPETENCY

The codes relating to the sub-category of competency, relate to a range of mediating, contextual and orientation of assessment constructs, they include; perspectives, interpretations and experiences of performance at university, PAB exams, work, professional practice, training, accounting profession reform, mentoring, morals/ethics and skills assessment

The following section goes through each cluster of codes which when analysed form sub-categories

- 1) Initial code – **ASPTRNXP** (Training experience of aspiring professional accountant)

Expressions from interview data

Contextual

Graduate scheme, organisation organised training, block release time issues, organisation granted study leave, expectation to pass exams, risk of sacking on failure of exams, work place mentor/supervisor relations, audit, accounts preparation

Other (non-theory informed)

Loyalty, artificially low salary, training based on organisation need, working with school-leavers

Conceptual links

The training of aspiring professional accountants is varied. All graduates undertake training at the start of their tenure. Typically, this training is undertaken with non-graduates and school leavers. However, typically, those with accounting and finance degrees do not have an extensive period of training compared with those with aspiring professional accountants with non-relevant degrees. Training is encouraged and is organised by most employers. The delivery of training (whether in-house or external) is linked to job requirements, rather than opportunities to fill in any experience gaps for the purposes of professional membership.

Training contracts awarded to aspiring professional accountants were either for accounts preparation or audit job roles. The salaries of aspiring professional accountants, training to be accountants is kept artificially low in order to allocate monies to training budgets in order to pay for training. This is contrasted with those working in industry or public sectors that have very different training experiences and resources are not as constrained for training.

Aspiring professional accountants working in practice make reference to the importance of working effectively as individuals but also for the teams to which they were assigned. Aspiring professional accountants are assessed on the basis of achievement in PAB exams and their performances on client jobs. Teams are tasked with jobs and despite initial attempts to “get one over on the audit

manager”, aspiring professional accountants soon realise that loyalty to the team enhances the likelihood of good job reviews. Although there is a culture of competition over progression roles, aspiring professional accountants work together and are loyal to the team.

In comparison aspiring professional accountants working in industry have a more varied work experience but generally receive lower salaries than those interviewed working in practice. The training is unstructured and reliant on exposure to different areas of the organisation. This exposure is dependent on their manager’s willingness to allow them to work outside their work role and the overall business need. In public sector organisations, there is seemingly much more freedom and scope to move around the organisation to gain experience. However, again, this is sometimes unstructured and not formalised. Performance evaluation and appraisal is ad hoc and seems dependent on the size and nature of the organisation.

2) Initial code – **ASPWRKEXP** (Work experience of aspiring professional accountant)

Expressions from interview data

Contextual

Defined work role, client facing, organisation set objectives, client job review, performance review, organisation resource needs, cheap resource

Other (non-theory informed)

Coaching

Conceptual links

The work of aspiring professional accountants varies depending on the organisation that they are employed by and the role that they have within that organisation. Generally speaking, (depending on size and nature of organisation), aspiring professional accountants interviewed have a clearly

defined work role, in which all but one is regularly reviewed and appraised. Opportunities for work outside the role is limited but available depending on the resource needs of the organisation.

- 3) Initial code – **COMPASPEXP** (Competency assessment experience of aspiring professional accountants)

Expressions from interview data

Contextual

PAB exams, work performance evaluation

Orientation to assessment

Developmental review, compliance with PAB requirements, active response to job review

Other (non-theory informed)

Responsibility of experience recording is on the aspiring professional accountant, organisation competence frameworks

Conceptual links

Competency assessment of aspiring professional accountants is a combination of PAB exams and practical experience requirements. Aspiring professional accountants perceive assessment of their competency to be based on performance evaluation of their employing organisations. For those on contracts with large professional service firms, this is operationalised through job reviews, performance reviews, and developmental review meetings. These reviews sometimes have cross over with professional body competency assessment requirements and are referred to when signing off practical experience records. However, these are organisation set objectives, competencies and feedback discussions. There is some discussion of work planning for aspiring professional accountants on training contracts where gaps in experience are evidenced e.g. according to

organisation competency frameworks but in order for this to be addressed; it needs to be identified as a business need.

Aspiring professional accountants working at small organisations in industry are generally not performance appraised. The focus of the employers of this group of aspiring professional accountants in relation to competency assessment is compliance. It is the case that the responsibility for compliance is that of the aspiring professional accountant, although the employer is keen to ensure that experience requirements are met. Informal secondments and rotations are arranged, in order that they get “exposed” to areas and they have an opportunity to experience work in these areas.

- 4) Initial code – **COMPASPWHO** (Who should assess competency of aspiring professional accountants)

Expressions from interview data

Contextual

Professional bodies' responsibility

Orientation to assessment

Workplace assessment (mentor), Independent assessor (Professional body), arm's length assessment

Conceptual links

Aspiring professional accountants, academic assessors and workplace assessors all agreed that technical competence is assessed via PAB exams and that this is the most appropriate means of assessment. The way in which accounting professionals define themselves is different from professions who overlap them. For example, tax professionals have a very clear professional identity that is separate from that of the accountant.

A view shared amongst many academic assessors is that practical experience of the aspiring professional accountant needs to be developed through the use of work based learning activities with ideally some 'real life' work experience in the workplace. The development of professional competency needs to happen in learning environments that encourage creativity, reflection, peer assessment, mentoring, observation and formative feedback on professional judgements exercised. Socialising processes of aspiring professional accountants need to happen in relational spaces.

There was unanimous consensus across all assessor groups (with the exception of PABs) that assessment of professional competency is the responsibility of PABs not the organisations employing professionals. Thus, the assessment of professional competency of aspiring professional accountants would ideally be undertaken by an independent body appointed by PABs.

5) Initial code – **COMPASPWHAT** (What should be assessed)

Expressions from interview data

Orientation to assessment

Client relationships, general trust relationships, professional judgment, technical competence

Conceptual links

All participants referred to "the client" and the need for aspiring professional accountants to be client facing. Currently, practical experience is assessed on the basis of the professional/working environment the aspiring professional accountant is working in. There was a view by workplace assessors within organisations employing aspiring professional accountants that this is appropriate, although some agreed that practical experience may be limited depending on the job role of the aspiring professional accountant. This view was shared by some accounting academics. However, there was a general view that the breadth and range of areas of accounting is so wide, that an important part of competency assessment should be recognising how little you know. There was a

dominant view amongst academic assessors that the PAB exams provided a good benchmark for technical competence of aspiring professional accountants. However, it was perceived that practical experience should ideally be a range of experiences in which the aspiring professional accountant has to exercise professional judgments, form client relationships and trust generating relationships.

6) Initial code – **COMPASPWHERE** (Where should competency be assessed)

Expressions from interview data

Contextual
Social and professional working environment, offline assessment environment
Orientation to assessment
PAB exams
Other (non-theory informed)
Centralised assessment based on work activities (outside the workplace)

Conceptual links

Workplace assessors agreed that the current practice of where competency is assessed i.e. in the workplace and via PAB exams is the right space to assess aspiring professional accountants. They did agree that competency could be developed using work based activities, but felt that it should be assessed within the workplace. However, academic assessors, in general, were of the view that competency could be assessed outside the workplace. They felt that safe assessment environments should be provided in which aspiring professional accountants can determine what information is actually needed by the client, rather than selling them what the client has asked for or in some cases that the business tells them they need.

Aspiring professional accountants should be free to make mistakes and learn from their professional judgements during their IPD. Importantly, they should also understand what they are prepared to

do to please their employer and whether this is in the ethical boundaries of the accounting profession.

Some academic assessors suggested that the assessment space should be centralised in order that assessment was standardised and consistent e.g. through regulation. There was a very clear view that the socialisation of accountants is a very distinct thing from assessment.

- 7) Initial code – **COMPASPHOW** (How competency of aspiring professional accountants should be assessed)

Expressions from interview data

Contextual
Workplace assessment, simulated professional learning environments
Orientation to assessment
PAB exams, online knowledge testing, role play, case studies
Other (non-theory informed)
Independent assessment (professional body), professional conversation

Conceptual links

Workplace assessors interviewed generally agreed that the assessment process of observing the performance of an aspiring professional accountant in their job, as well as completion of exams and ethics requirements was the right model of competency assessment. Some of those interviewed as well as aspiring professional accountants shared stories mirroring issues highlighted in the literature review e.g. reluctance to sign off experience records, embellishment of experience, lack of standardisation of assessment etc. CIMA's model of competency assessment in which x2 independent assessors/verifiers with no relationship with the aspiring professional accountant, (and

are not CIMA employees), emerged from interviews as the most favoured model in terms of assessment process.

All participants agreed that online MCQs, simulated professional environments (although the problem is “*they are just not real*”), psychometric testing, role-plays, case studies were relevant and legitimate competency assessment activities in the assessment environment. All participants agree that the verifiability of work products associated with these activities could be enhanced using professional conversation.

8) Initial code – **ASSPROFPER** (Assessment of professional accountants’ performance)

Expressions from interview data

Contextual
Annual appraisals, annual performance reviews
Other (non-theory informed)
Informal meetings/chats

Conceptual links

Formal assessment of the performance of professional accountants takes place via appraisals and annual performance reviews. This practice is ad hoc, though typically occurring every six months in larger organisations. The focus on these reviews is to identify developmental opportunities by reviewing historic performance and setting objectives for the forthcoming period.

Informal assessment takes place through social interactions, such as “meeting for coffee.”

Assessment of performance involves discussion around performance in the work role and resolution of factors/issues impacting on adverse performance in work.

9) **New code** – **ORGNOBJ** (Objectives of the organisation)

Expressions from interview data

Contextual

Succession planning (partners, leaders), pressure from PABs,

Other (non-theory informed)

Negotiate with PABs, Trainees are shaped to the mould of the firm, maintenance of appropriate human capital, return on investment

Conceptual links

The objectives of organisations emerged as a new and important theme in the interviews (discussed in step four, Chapter 3.9.2.5). Organisations have a big say in which PABs the aspiring professional accountant seeks to be a member of. In one particular case, the aspiring professional accountant explained that their employing organisation had purposefully selected the professional accounting body to restrict avenues of career progression outside the sector within which they are training. In addition, some organisations negotiate delivery of training and PAB exam courses by training providers depending on their fluctuating, seasonal labour demands.

All assesses and workplace assessors discuss the focus by organisations on ensuring that their aspiring professional accountants are trained a certain way. It is important for the organisation that the aspiring professional accountant achieves fit within the organisation. It is clear that historically there was an acceptance by organisations of a loss of trainees, once trained. Organisations, now seek to retain their talent and further develop their talent pipeline. However, trainees are an investment to the organisation, but if a return is not being realised on that investment, then the trainee is released.

10) **New code** – **ORGCULTURE** (Impact of organisational culture on competency)

Expressions from interview data

Contextual

Profit maximisation, value for money, competitive, training and development

Other (non-theory informed)

Justification of the role

Conceptual links

Aspiring professional accountants working in organisations that are profit making organisations e.g. professional services firms, frequently make reference to perceptions that competency was linked to the speed of doing one's job. In fact, one of the assessors recalled that despite his technical competence in his job and success in PAB exams, he was released from his employment at a Big eight firm for being too slow. Aspiring professional accountants working in organisations where strategic objectives are linked to value for money e.g. public sector recall experiences where work practice is much more relaxed. These workers often work more flexibly and their competency is certainly not assessed using a measurement of time/speed.

There is a sense amongst aspiring professional accountants working within profit making organisations that their role needs to be justified and a clear business need identified. Again, it is understood that this requires that the aspiring professional accountant therefore demonstrates the required level of performance in their role, or they will be replaced.

11) Initial code – **ASSASPPER** (Assessment of performance of aspiring professional accountants)

Expressions from interview data

Contextual

Company benchmarked performance

Other (non-theory informed)

Client job review, performance review (tasks)

Conceptual links

Assessment of the performance of the aspiring professional accountant is related to the functions of their job and the contribution they make to the organisation. Performance is assessed within the roles and responsibilities of the job role. In many cases, this contribution is measured in terms of the job that is done for the client. Therefore, a significant element of the measurement of performance is the value accorded to the client relationship. Experiences of assessment range from no formal performance assessment to job reviews & moderation/review meetings every six months. In most cases of performance appraisal, managers refer to notes made by audit seniors/team leaders on the contribution made by the aspiring professional accountant on a client job. In some cases, the performance of aspiring professional accountants is assessed relative to others recruited at the same time and at the same stage of IPD. The perception being, *“Of course people who have the magic with clients are bound to go far.”* Importantly it is perceived that performance in work is not necessarily a measure of competency.

12) Initial code – **DESWKMATTR** (Desirable attributes in workplace mentor)

Expressions from interview data

Orientation to assessment

Foster social cohesion, “good at their job,” networkers, good communicators

Other (non-theory informed)

Mentoring is incumbent, positional power

Conceptual links

Professional mentoring was suggested as being incumbent upon more senior professionals. An organisation is perceived as a place of professional development in which social cohesion should be achieved. Desirable attributes in workplace mentors are professionals who are qualified, with post qualification experience, positional power and who are good at their job. Desirable work place mentors are perceived as being good communicators as they are tasked with providing feedback to the aspiring professional accountant. They are also perceived by aspiring professional accountants to be useful to them in terms of establishing a wider network of professional contacts.

13) **New code** - **WRKMENTRG** (Mentoring at work)

Expressions from interview data

Contextual

Explicit & implicit mentoring, support professional development

Other (non-theory informed)

Relationship building, knowledge, understanding and trust

Conceptual links

Mentoring can be explicit or implicit. Explicit mentoring is formalised via work structures and hierarchies. Experience of implicit mentoring suggests that is as powerful for the aspiring professional accountant as explicit mentoring. Implicit mentoring happens through fostering relationships, which are not formally stipulated through organisation structure or training contracts. The interactions within the relationships create knowledge, understanding and trust to the aspiring professional accountant in ways that supports their professional development.

14) Initial code – **DESPROFATTR** (Desirable attributes of professional accountant)

Expressions from interview data

Orientation to assessment

Established through observation, trust building relationships with clients and staff

Other (non-theory informed)

Executive decision making

Conceptual links

Desirable attributes in professional accountants referred to by both assessors and assesseees are identified through observation e.g. in meetings, rather than reputation. Desirable attributes include rationalisation and speed and accuracy of execution of decision-making and finally trust building relationships with clients and staff.

15) Initial code – **EXPAPRWRK** (Experience of appraisal of work)

Expressions from interview data

Contextual

Performance in the job, achievement of organisation set objectives

Conceptual links

Appraisal of work focuses on performance in the job role. Aspiring professional accountants on training contracts are regularly appraised. Periodic reviews evaluate job completion, achievement of developmental objectives and attainment of competences within organisational competency frameworks. Aspiring accountants not working on contracts are not regularly appraised; no checks are taken to ensure that they have completed the practical experience requirements of the PABs.

16) Initial code – **SIMWRKPERCP** (Perceptions of simulated work)

Expressions from interview data

Orientation to assessment
Reflection on practice, develop competency, formative assessment
Technology presence
Game with no real consequence, potential for scenario planning/sensitivity analysis
Technology affordance
Legitimate professional work activities, valuable, safe environment, tool of learning and reflection
Other (Non-theory informed)
Not real life, online assessment

Conceptual links

Simulated work activities are perceived by all participants as legitimate professional work activities. However, the absence of real clients and lack of real work pressure meant that these activities were perceived to be supplementary to and not in replacement of work experience.

A unanimous perception shared by assessors is of the value enhancement that simulation has as a tool of learning in which aspiring professional accountants can develop competence. However, there is a strong feeling that simulation should not be used for summative assessment of practical

experience. The primary value accorded to simulation is that it is an environment that enables aspiring professional accountants to exercise professional judgment and moral reasoning in a way that does not result in them losing their job.

Online simulated work activities are recognised as most appropriate to develop competency. An added benefit in using online simulation is its capability to be used by aspiring accountants who can work collaboratively in teams over a wide geographic area.

17) **New code** – **PROFESSREFORM** (Professional body reform)

Expressions from interview data

Contextual

Proliferation of PABs, New professional identities, Internationalisation

Conceptual links

There has been a proliferation of PABs over the years that has blurred collective understanding within the professional community of the identity of a professional accountant. A clear professional identity distinction between ICAEW and ICAS is drawn in practice. It seems accounting and finance degrees are deemed to be an academic degree in Scotland, but this is not the case in England. Many of the workplace assessors interviewed perceive accounting degrees to churn out “auto-maters” rather than critical thinkers.

In addition, it is clear that tax professionals do not identify themselves as professional accountants, but as a separate and distinct professional group. Thus, the requirements of the competency of the tax professional may be considered as similar in some ways and different in others to the accounting professional. Finally, it was perceived that evidential rules of competency e.g. what is deemed ethical in one country may be different to another country. Therefore, expectations regarding performance are impacted by social and cultural norms.

18) **New code** – **SOCIOENV** (Social and Environmental environment impacting on competency)

Expressions from interview data

Contextual

Marketization of higher education, fewer graduate jobs

Conceptual links

Aspiring professional accountants who have undertaken accounting and finance degrees interviewed make reference to the value that their degree had given them in terms of accessing professional accounting work. Accounting and finance placements were deemed most valuable in accessing subsequent graduate level professional level work. Assesseees feel access to professional work during their studies is important to them. Additionally, is the fact that they can successfully deal with the technical requirements of a graduate job on entry due to the experience on their placement. This is expressed by assesseees in terms of value. Those who have not undertaken an accounting and finance degree are deemed to struggle on entry into the new graduate roles, working harder to bring themselves up to the level of accounting and finance graduates within the short term.

Competency is perceived by aspiring professional accountants and workplace assessors as being linked with a professional job role. All aspiring professional accountants make reference to the difficulties experienced in securing their professional roles via recruitment and selection, due to large numbers of applicants. This is contrasted with many of the assessors, who re-told stories of being recommended to organisations by family members or associates and in many cases, not even having a formal interview. Additionally, stories were told about aspiring professional accountants in 1980's of colleagues leaving for better jobs (despite not yet finishing exams or training contracts). Numerous assessors told stories of being offered "lots of jobs" with one academic assessor having being offered four jobs in just one weekend.

In contrast, the social environment of professional accounting and marketization of higher education means that modern day aspiring professional accountants are very aware that they are dispensable and that there are lots of other graduates/school-leavers in the marketplace waiting to replace them.

The next section relates to the codes emergent from interviews relating to evidence, associated evidential rules and perceptions of how competency is currently evidenced. Further discussion relating to how evidence can be made more verifiable was discussed. A collective sociological sense of what constitutes evidence within the context of competency assessment will be drawn from the codes emergent in the initial phase of the data analysis.

CATEGORY - EVIDENCE

The codes relating to the sub-category of competency, relate to a range of mediating, contextual and orientation of assessment constructs, they include; mentoring, retention of clients, respect, standards, professional judgments, feedback, autonomy, confidence, records, mentor sign offs.

- 1) Initial code -EVDCOMPT- Evidence of competence

Expressions from interview data

Contextual

Minimum threshold of performance, Retaining client services, continued employment

Other (Non-theory informed)

Achievement of professional exams, informal & external mentoring of others, professional respect (including experienced non-qualified), aptitude, trust, confidence

Conceptual links

It is clear that achievement of PAB exams is collectively understood to be evidence of technical competence. However, experience, ethics and judgements are developed through working with and observing the professional practice of “good people;” professionals considered to be ethical and good at their job. Evidence of competence is established through achieving the minimum threshold of performance in one’s job. This is demonstrated by clients retaining an accountant’s services, not being sacked and being allocated jobs by more senior colleagues, e.g. partners. In addition, being a person whom people feel they can confide in for advice and guidance is deemed to be evidence of competence. These perceptions of evidence of professional competence extend beyond aspiring professional accountants to post qualified accountants. Additionally, participants referred to an aptitude for the requirements of successful performance demonstrable in a seemingly effortless way.

It is important to note, that whilst completion of PAB exams was deemed to be a strong indicator of competence, accountants with experience (rather than formal qualification) in the jurisdictions requiring technical competence are also deemed to be competent. As the study is about aspiring professional accountants this has not been explored in more detail, but is perhaps a notable area of further research.

2) COMPSTD (Standards of competency)

Expressions from interview data

Contextual
Minimum threshold of performance, intersecting different professional domains, autonomous working
Orientation to assessment
Based on professional judgments,
Other (Non-theory informed)
Permeable, transient in nature, not making significant errors, no need for consultation/advice for decision making

Conceptual links

There is a perceived tolerance threshold of competency, between which an accountant is either competent or not competent. Professionalism and therefore competency is about hitting (and exceeding) the minimum standard of the threshold. Competency is permeable, transient and moves across different professional domains. The nature of competency in a professional accountant changes over time and jurisdiction. It is widely acknowledged by those interviewed that technical competence is a significant aspect of competency for the aspiring professional accountant and less so, for the more experienced professional accountant.

Achievement of competency of the aspiring professional accountant is regarded as performing professional work within a jurisdiction that requires application of professional competence, at the minimum threshold standard. Competency is characterised with not making the sort of mistakes that if detected would lead to a disciplinary review at work. An acceptable or minimum standard of competency was deemed to have been reached when the aspiring professional accountant could work autonomously and did not need to consult with superiors for advice to complete work based tasks. However, all workplace assessors referred to issues with standardisation of assessing competency in the workplace and the lack of guidance and/or support by PABs to support this.

3) **New code** - EVDCOMPASP (Competency evidence of aspiring professional accountants)

Expressions from interview data

Contextual
Records of completed work tasks, completion of training linked with job role, Mentor/Supervisor review, Test/Exam results
Orientation to assessment
Reflections to demonstrate knowledge and experience
Other (Non-theory informed)
Conversations and feedback with clients/colleagues, retrospective collation

Conceptual links

On probing, participants regard competency evidence to be PAB exam results, records of completed work tasks and reflections of experience. Evidence of competency is based on professional competence in action. This observed performance is affirmed by reviews by workplace assessors. Evidence is considered to be linked to record keeping of experiences that are signed off by somebody who knows the aspiring professional accountant and can attest to the standard of completed work tasks. Evidence of competency within records of evidence is demonstrated by achieving performance standards determined by the organisation.

It is perceived that an aspiring professional accountant can be competent without knowing lots of different areas of accounting. For example, it was perceived that assesses working in the jurisdiction of audit were restricted in the breadth and scope of experience but that this did not make them less competent as accountants. This perception was largely articulated by those working in audit themselves. They explain the nature of audit work requires technical competence, moral reasoning and close, trust building relations with clients. However, it was noted by many participants interviewed that the client is not always right.

Aspiring professional accountant reflections are used by organisations to identify learning and potential areas of development. Reviews of records of reflections by assesseses are used (in conjunction with manager/supervisor reports) to inform job and performance reviews. All participants referred to the fact that evidence is collected retrospectively for practical experience recording, often at the end of the IPD period. In many cases, evidence was collected at the point at which PAB membership was to be applied for.

- 4) Initial code – VEREVDCOMPASP (Verifiable Evidence for competency assessment of aspiring professional accountant)

Expressions from interview data

Mediating

Records of completed work tasks, completion of training linked with job role, Mentor/Supervisor review, Test/Exam results

Orientation to assessment

Manager/supervisor sign off, recorded examples of work tasks, endorsed professional development plans

Other (Non-theory informed)

Recorded feedback from reviewers, recorded professional conversations with independent assessors, deconstruction of records submitted as evidence

Conceptual links

The verifiability of evidence is enhanced through making implicit or tacit evidence e.g. reflections and feedback, explicit through recording. In addition, it was perceived by assessors that verifiability of evidence is enhanced when independently created e.g. professional conversations between an independent assessor and the aspiring professional accountant regarding how they have gone about the work that they have evidenced.

Verifiability is currently provided through the signing of practical experience records by workplace mentors familiar with the type of work of the aspiring professional accountant. Crucially, this workplace assessor may have little day-to-day involvement with the aspiring professional accountant and therefore not observe their performance.

In order to enhance the verifiability of evidence, it is suggested that independent verification of both the evidence and a professional conversation in which work practices and cognitive thought processes are discussed should take place. A deconstruction of the evidence to determine the facts and linkage with the work tasks is required in order to enhance the verifiability of the evidence itself. It was universally agreed that this deconstruction of evidence could be done via recorded professional conversation, where the assessor could *“see when the confusion starts to creep into someone’s eyes”*

Verifiable evidence shapes the interpretations and judgments made by assessors regarding the performance of assesseees within the context of competency assessment. As such, evidence mediates the professional competency assessment process.

- 5) Initial code – VEREVDCOMPROF (Verifiable competency evidence of professional accountant)

Expressions from interview data

Other (Non-theory informed)

Completion of online knowledge tests

Conceptual links

As the focus of the study is on aspiring professional accountants, data generated from the interviews focuses on this particular social group. However, it became apparent from interviews that competency was associated with a continuance of action/performance beyond IPD, so discussions

extended to professional accountants and CPD. Some accounting professionals suggested that professional accountants (members) could use their membership number to generate unique login details to answer knowledge tests, to ensure that their knowledge is contemporary. Importantly, these knowledge tests should be linked to moral reasoning (not ethics), decision-making and technical competence. It was suggested that technical competence should be linked to the professional's current practice i.e. jurisdiction.

The final sub-category of data emergent from interviews is that relating to assessment and appraisal judgments.

CATEGORY -ASSESSMENT/JUDGMENTS OF COMPETENCY

The codes relating to the sub-category of assessment/judgements, relate to a range of mediating, contextual and orientation of assessment constructs, they include; different socio-environmental contexts,

CATEGORY – JUDGEMENTS

When analysing the data relating to orientation of assessment of academic assessors and workplace assessors, it was apparent that there were some clear division of opinion. It is for this reason that I have separated the codes emergent from interviews with both social groups; assessors (academic) and assessors (workplace).

1) ASSORIENT (Orientation of Assessors) – Academic

Expressions from interview data

Contextual

Different social and environmental contexts, assessment context (Higher education v professional context)

Orientation to assessment

Integrated competency assessment, development beyond the workplace, assessment beyond the job role, critical/philosophical thinkers, transformative assessment

Conceptual links

Academic assessors believe that the development of competency is not restricted to workplace. Indeed, its assessment should be beyond the workplace and consider different social and environmental contexts. This is affirmed by a strong belief that the concept of competency extends beyond being able to do one's job effectively. Additionally, academic assessors suggested that assessment of competency should help develop aspiring professional accountants into philosophical thinkers to move the profession on.

It was the view of higher education assessors interviewed that assessment of competency should be transformative. It is for this reason, that simulated work and professional environments were deemed as appropriate learning and assessment environments for aspiring professional accountants.

2) ASSORIENT (Orientation of Assessors) - Work

Expressions from interview data (Workplace assessors)

Contextual

Workplace assessment

Orientation to assessment

Familiarity with aspiring professional accountant and their work, emotional intelligence, based on workplace activities, assessment of work tasks related to role/job, affirmation of technical competence (which can be taught on the job), feedback at critical points to improve performance at work

Conceptual links

Workplace assessors regard competency assessment as needing to be linked to performance in the workplace. If the work role does not provide workplace experiences needed, then they suggest competency can be developed outside the workplace but should then be assessed in a workplace environment. Competency assessment should assess technical competence and be carried out by someone who understands the nature of their work and them as a person. Some workplace assessors (n=4) make reference to commercial sensitivity of information when it is put to them about the possibility of sharing work products with assessors outside the workplace. Although it is acknowledged that assessment of competency should probably be based on evidence assessed by an independent assessor rather than observation, this is cited as the main reason why this cannot be done in practice.

This concludes the analysis of codes into clustered categories.

Initial analysis of the codes, provides some patterned meaning which is explored in further detail through the use of thematic analysis in Step 4 in Chapter 4, Data Analysis. The following section details how themes are developed and analysed to provide patterned meaning that is used to provide the basis for the revised (to include technology-mediation) theoretical framework.

3.2.9.4 Step 3 - Searching for themes.

The codes form the trunk of the coding tree and thematic analysis enables the branches of the tree to form and emerge through further analysis of the data. This is undertaken using pattern coding (Saldaña, 2009, p.152)

Miles and Huberman (1994) explain that pattern codes are “explanatory or inferential codes, ones that identify an emergent theme or explanation. They pull together a lot of material into a more meaningful and parsimonious unit of analysis...pattern coding is a way of grouping those summaries into a smaller number of sets, themes or constructs”. (p.169)

Pattern coding is appropriate for an abductive study such as this, in which themes identified move between the literature and interview data. Different sections of the interviews related to different research questions. The interpretive nature of the study means that it is appropriate to identify codes as I interpret the data. Some codes are static; these are the theory-informed priori codes that remained unaltered for the duration of the coding process. Some codes are modified or removed as issues emerge through transcription and analysis of the interview data. This process again, reflects the abductive nature of the research study. As explained previously, thematic analysis in this study is an iterative process of moving back and forth between the interview data and the literature.

Themes are reviewed in order to undertake relational analysis and determine how codes combine to form themes. Themes provide the meaning of coded data and represent some patterned meaning to the recurring codes identified.

3.2.9.5 Step 4 - Reviewing themes

This phase of data analysis looks at refining themes identified through an iterative process of review. The theme reviewed may be a list of codes, a complex model consisting of constructs, indicators, and qualifications that are causally related (Castelló and Lozano, 2011). (However, the study does

not investigate the causality variables linked to general areas of investigation). Although themes are not pre-empted, some themes are invariably framed around priori codes developed from theory emergent from the literature review.

Themes are the conceptual links of expressions (Ryan and Bernard, 2003) captured by the codes. I have followed the following principles in analysing the coded data, to develop associated descriptions and narrative into themes on the basis of the following;

- 1) Repetition of “topics that occur and reoccur” (Bogdan and Taylor 1975, p.83) or are “recurring regularities” (Guba 1978, p.53). Topics that occurred recurrently were clustered to develop themes.
- 2) Indigenous typologies or categories (Patton, 1990). This is data that is meaningful in a local context that may sound unfamiliar or used in unfamiliar ways (Ryan and Bernard, 2003, p.89). This data characterises experience of participants. Participants would sometimes make reference to accounting specific terminologies or practices. It was here that my knowledge of professional accounting and experiences as a work place mentor enabled me to understand indigenous typologies without confusion or risk of misinterpretation.
- 3) Metaphors and Analogies. Lakoff and Johnson (1980) observed that people often represent their thoughts, behaviours, and experiences with analogies and metaphors. Some common analogies (e.g. driving test) were used to represent conceptualisation of competency assessment. These analogies and metaphors were not discounted and was included as an integral part of the analysis.

- 4) Transitions. In semi-structured interviews, researchers steer the conversation from one topic to another, creating transitions (Ryan and Bernard, 2003, p.90). Transitions in the data led to the emergence of new codes. Some topics of conversation were not wholly relevant to the research question, but formed an important part of contextual variables in which experience of the phenomenon was expressed by participants.
- 5) Similarities and differences. Glaser and Strauss (1967) called the “constant comparison method” (p.107). It involves searching for similarities and differences by making systematic comparisons across units of data.
- 6) Linguistic connectors. Look carefully for words and phrases such as “because,” “since,” and “as a result,” which often indicate causal relations (Ryan and Bernard, 2003, p.91)
- 7) Missing data. This relates to data not mentioned or data that does not relate to identified themes. Some of the priori codes were not emergent in the data. However, their absence was actually explained in going back to the literature review e.g. hermeneutic theory (See Chapter 2.5.3)
- 8) Theory related material. Bogdan and Biklen (1982) suggested examining the setting and context, the perspectives of the informants, and informants’ ways of thinking about people, objects, processes, activities, events, and relationships (p.156-p.162). However, prior theorising, as Charmaz (1990) said, can inhibit the forming of fresh ideas and the making of surprising connections (cited Ryan and Bernard, 2003, p.94). I did not find this to be the case with the emergence of new codes, leading to a dynamic coding list.

Whilst categories are structured by similar data; a theme, on the other hand, is a meaningful “essence” that runs through the data (Morse, 2008).

It is during this stage of thematic review that a review of emergent themes and concepts is undertaken to develop a theoretical framework of technology-mediated professional competency.

Further analysis of the data looks to how the theoretical framework can be operationalized based on observations made in the data analyzed.

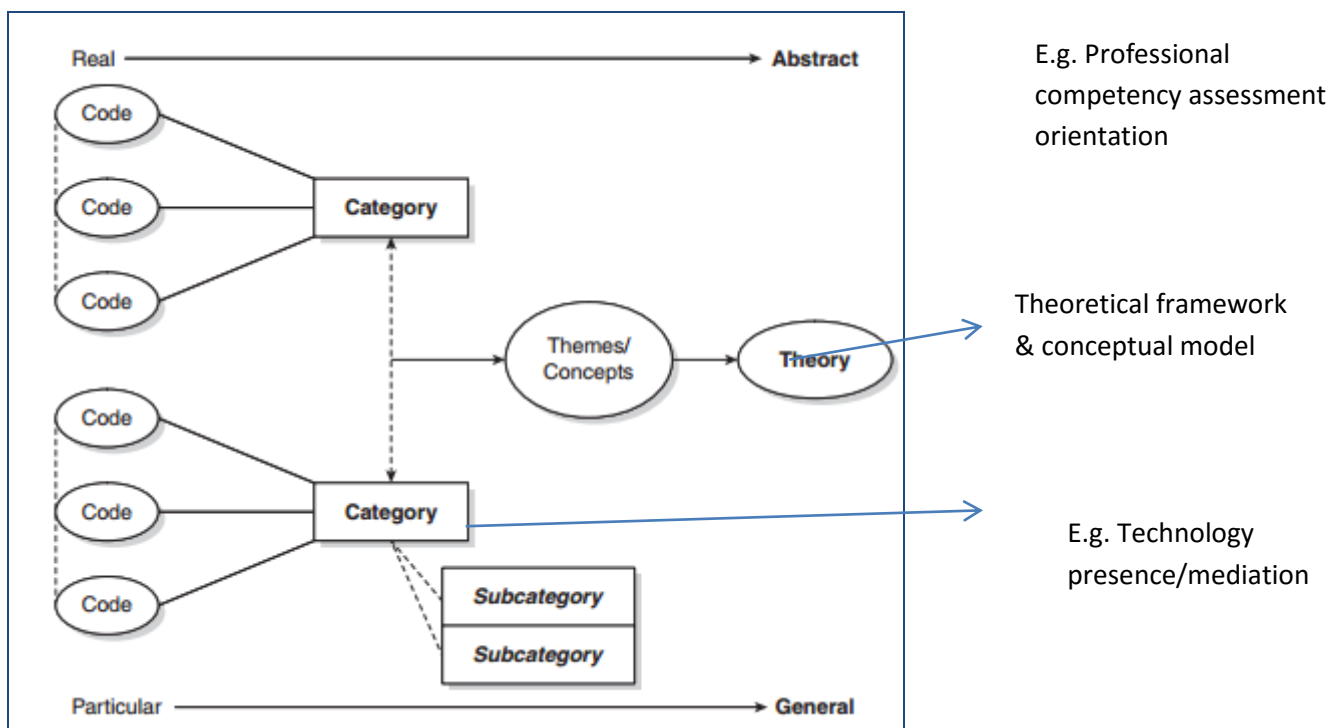


Fig 19. A streamlined code to theory model for qualitative research, Saldaña (2009)

3.2.9.6 Step 5 - Development of theoretical framework (conceptual assessment framework) and conceptual assessment model.

A (revised) theoretical framework capturing the theories and their relationship to the phenomenon of technology-mediated professional competency assessment is framed following analysis of the

data captured from interviews. Dominant themes are defined, following a review of themes emergent from interview data and themes emergent from the literature review. These themes are tabulated with a description relating to each theme to specify key variables influencing the phenomenon. (See Chapter 4.2, relational analysis). This is the basis on which the revised framework is developed and framed.

The data is further analyzed to establish both relational and conceptual links in the data in order to begin the process of framing a conceptual model (that operationalizes the theoretical framework). This is developed by mapping participants' views, opinions and interpretations of how competency assessment should be operationalized in a practice based setting. The process is represented by a diagram below;

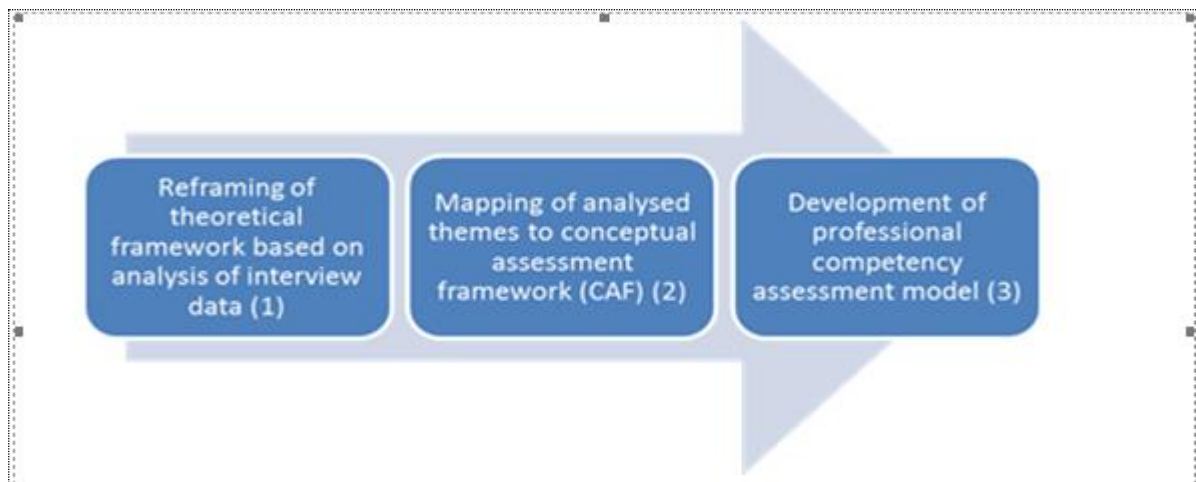


Fig. 20 Reviewing themes from analysis of interview data to develop a conceptual model of professional competency assessment

A conceptual assessment framework (CAF) is used to provide process and content elements to the conceptual model emergent from the analysis. The CAF is the link between the literature, the theoretical framework and the data analysis results of the research question(s) posed.

The emergent conceptual model of competency assessment is validated by members of IAESB as a model that could work in practice and is presented in chapter seven.

3.3 Important Research considerations

It is important, that in spite of being a qualitative study that the research design; its methodology and methods are rigorous and scientific in approach. For this reason, there are important considerations specific to the research design that need to be considered and addressed.

3.3.1 Research Credibility

Validity can be defined as 'truth' or 'soundness' (Steiner & Barnhart, 1972). Merriam (2001), suggests that the credibility is the equivalent concept in qualitative research to that of validity in quantitative research.

According to Blaikie (2000), retroductive research (which uses an abductive approach), presents potential difficulties in the researcher's ability to establish the credibility of the data. In qualitative research, individuals have an active role in the construction of social reality (Boeije, 2010).

Feyerabend (1978) explains that a qualitative approach shapes interaction between the phenomena studied and the data collected. Human knowledge is unavoidably conjectural and the "truth" regarding perspectives and experiential knowledge of the participants is recognised taking into account their biases, as well as those of the researcher who also participates in the study. The ability of qualitative data to more fully describe a phenomenon is an important consideration not only from the researcher's perspective, but from the reader's perspective as well (Hoepfl, 1997).

Qualitative research is one which the researcher usually makes knowledge claims based on constructivist perspectives (Bahari, 2010). In qualitative research, according to Butler-Kisber (2010), "the perspective of the observer and the object of observation are inseparable; the nature of meaning is relative; a phenomenon is context-based; and the process of knowledge and understanding is social, inductive, hermeneutical, and qualitative." (p.7).

Walshaw & Brown (2012), suggests that socially constructed assumptions shape the way reality is viewed and the way in which the notion of truth is understood. Thus, a major challenge of research of this nature is the degree to which the frameworks and models that are developed in the study is a valid representation of reality. Blaikie (2000) expresses that this “will be a matter of judgement.”

A long standing concern with qualitative research is the role of the researcher in assigning value to one of what may be many possible meaningful interpretations of the same data (Guba & Lincoln, 1989). They go on to suggest that researchers cannot assign value to one meaning without acknowledging the role that they personally play within this construction. Wiling (2001), suggests that qualitative research attempts to acknowledge this limitation through reflexivity. He proposes that to address this concern researcher study the experiences, influences and activities of participants while explicitly considering personal and epistemological reflexivity to acknowledge their own biases.

Nightingale & Cromby (1999) affirm that to be reflective requires an awareness of the researcher’s contribution to the construction of meaning and improbability of remaining neutral, impartial and unconnected to the research subject itself. This is a very important assumption of the research study and research strategy employed. I acknowledge that I cannot emancipate myself from the research and have been open about my biases and assumptions. I have continued to reflect on my own biases and the extent to which they impact on the study. However, a scientific approach i.e. systematic and disciplined is undertaken that is underpinned by sound ontological and epistemological assumptions, which enhances the credibility of the research study.

“For judgements about the validity of knowledge claims to have scientific merit, it is required that they are based on the weight of the evidence and argument offered in support of a statement or knowledge claim” (Polkinghorne, 2007, p.474).

Observations, experiences and perceptions presented as findings and conclusions are interpreted to generate knowledge claims. The credibility of the findings of the study are enhanced by adopting a scientific research approach in which knowledge claims are deemed to have scientific merit. This is achieved through the use of a rigorous research methodology. The data collection instruments use validated constructs which inform some of the questions posed. In addition, the interview schedule asks questions around the same valid construct in slightly different ways. These methods try and enhance the likelihood that the articulated meaning of experiences by participants reflects the actual experienced meaning itself.

The validity of narrative accounts of experience as articulated by the participants is also enhanced through the use of a variety of supplementary materials e.g. copies of performance development reviews, practical experience records and training logs, placement journals etc.

The disjunction between the participants' actual experienced meaning and their storied experience, according to Polkinghorne (2007) has four sources;

- (a) the limits of language to capture the complexity and depth of experienced meaning,
- (b) the limits of reflection to bring notice to the layers of meaning that are present outside of awareness
- (c) the resistance of people because of social desirability to reveal fully the entire complexities of the felt meanings of which they are aware, and
- (d) the complexity caused by the fact that texts are often a co-creation of the interviewer and participant

(p.480)

As previously mentioned, I am myself a qualified accountant, now working in accounting education.

Patton (1990) suggests that background, qualifications and experience of the investigator is very

important for the credibility of the study. My work history and background means that I have good knowledge of the accounting profession and am familiar with the nature of some of the narrative accounts provided by accounting professionals.

Another mitigating factor against the disjunction of storied experience and experience is that many of the participants are known to me. Lincoln and Guba (1985) suggest that the most important factor in ensuring credibility of a research study is the credentials of the participants. All participants' qualifications, membership/professional status were checked and verified through personal networks, organisation websites and LinkedIn profiles.

My interactions with participants before interviews took place, mean that the factors listed by Polkinghorne (2007) impact on the study to a lesser, rather than greater extent. I interacted with all participants via social media and telephone briefings before commencement of interviews. The assumption being that the likelihood of them feeling at ease to discuss their storied experience openly and honestly during the interviews would be enhanced. Due to my ongoing relations with some participants, some socio-biographies were already known to me. Additionally, these existing relations enabled participants to explain fully the expressed meanings of their interpretations and observations. Finally, participants were offered the chance to read transcripts and quotations for accuracy before their inclusion. These are all measures to enhance the research credibility of the study.

3.3.2 Research Dependability

Lincoln and Guba (1985) explain that dependability is addressed through employing techniques to show that, if the work were repeated, in the same context, with the same methods and with the same participants, similar results would be obtained.

This is a significant challenge in qualitative research. Marshall and Rossman (2006), pose the challenging question, "How can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context?" (p.201).

Clearly, the critical realism philosophy that underpins this study, recognises stratified realities in which social structures impact on experience and actual events as they happened (not necessarily as they are experienced). An important requirement in answering the question of dependability of the study is to separate the empirical (interpretations of lived experience) from the actual (events as they happened) in order to reveal different aspects of reality. This requires interpretation of storied experience. This is particularly challenging given the diversity of experience between agents in the ever-changing, dynamic assessment environment.

Webb et al (1966, in Blaikie, 2000), assert that it is essential for sociologists to "employ multiple methods in the analysis of the same empirical event [because] each method will reveal different aspects of empirical reality" (p.263). Denzin (1970, in Blaikie, 2000), advocates a more holistic version of triangulation, which involves the use of a variety of data sources and investigators as well as methodologies.

Marshall and Rossman (2008) explain that for the qualitative researcher, it is more important to register the intricacy of the different contexts. The intricacies are linked with the stratified realities lived by participants. In order to try and gain understanding of them, different sources of data (organisation competence frameworks, PAB website information, and IFAC meeting minutes and agendas) as well as different perspectives of accounting professionals relating to the phenomenon being explored.

Dependability, specifically emphasises the need to account for the ever-changing context within which research occurs. This is particularly important given the changing role and transient nature of technology. In recognising this, the sample population of the study cuts across different

organisations, different points in time on qualification, membership of different PABs, different practical experience assessment requirements, and different stages of training contracts etc. In doing so, a range of diverse experiences and viewpoints relating to the same phenomenon is captured. Purposive sampling of the different social groups all offering different perspectives of the same research phenomenon (technology-mediated competency assessment) provides a form of triangulation, which enhances the dependability of the research.

3.3.3 Ethical considerations

It is very important to me as a researcher that I am trusted by the participants in the study and that they felt at ease to share their thoughts, experiences and perceptions with me. A significant number of participants were not known to me before the interviews (n=21). In all cases, I made initial contact to participants via email/LinkedIn and then followed up with an initial phone call or face to face meeting. It is in this meeting that I went through the research study information sheet (see Appendix A).

Just before commencement of the interview, participants were requested to read and complete and sign a consent form. I also explained how I would anonymise the interview data and ensure that anything cited would not be traceable back to them or the organisation to which they were referring. Additionally, each participant was informed of their option to withdraw from the study at any time.

Participants had volunteered a time when they were free for an hour or an hour and a half and subsequently, did not lose any remuneration or time from work in taking part. Those participants based outside of England were telephone interviewed on loudspeaker and recorded via a voice-recorder. All interviews were recorded using a recording device (participants were notified of this

as part of granting consent). The files were deleted once the data was uploaded onto the secure university network.

This study has been approved with no recommendations by AREA 12-058 Ethics committee of University of Leeds.

4.0 CHAPTER FOUR – DATA ANALYSIS

Basit (2003) explains that raw data can be very interesting to view but it does not help the reader to comprehend or understand the social world, in the real world under scrutiny. He goes on to explain that this can only be possible once data has been analysed to give clarity and understanding to the emanating themes. This is why in analysing data, coding becomes a crucial phenomenon. Coding, according to Dey (1993) involves subdividing the data as well as assigning categories. Miles and Huberman (1994) propose that coding takes the form of a straight-forward category label or a more complex one, for example a metaphor.

The eventual outcome of coding is clarity of data and Tesch (1990) used the term ‘data condensation’ or ‘data distillation’ as a description of the eventual outcome of a qualitative analysis. This transformation of data by the process of coding was hailed by Basit (2003) in his emphasis that, “the body of data did not merely become smaller and manageable in the analysis process because there was less to deal with, but was as a result of interpretation and organisation.” (pg.244). Ely et al (1991) describe establishing categories as a very close, intense conversation between a researcher and the data that has implications for on-going method, descriptive reporting and theory building.

According to Dey (1993) creating codes enables the researcher to go beyond the data. Coffey and Atkinson (1996) assert that codes enable a link between locations in the data. Concepts or ideas and heuristic devices enable the researcher to go beyond the data, in what Conrad’s (1987) explains is to get, ‘an insider’s perspective’ and understand the everyday lifeworld of participants.

Coding and data analysis are not the same thing. They are not synonymous, although coding is a very crucial and important aspect of analysing qualitative data (Basit, 2003). “It leads you from the data to the idea and from the idea, to all the data pertaining to that idea” (Richards & Morse, 2007, p. 137).

Data analysis (eyeballing)

I decided to identify themes using eyeballing rather than computational analysis. The methods employed to identify themes are observation-based techniques. As such, added to the fact that I immersed myself in the data by conducting the interviews, transcribing them, ordering and sorting the text, I wanted to understand the richness of the relational analysis. I felt that my knowledge and experience meant that I could embrace and understand indigenous typologies (Patton, 2002, p.454). I could make sense of expressions in the data (not just identify their patterns), in a way that I could not achieve with computational analysis due to my inexperience of using technology for this purpose.

4.1 Step 4 – Thematic Analysis

Opler (1945) explains that themes are ‘dynamic affirmation’ only visible and therefore discoverable through the manifestation of expressions in data (p.198-199). Themes are conceptualised as Strauss and Corbin (1998) describe, ‘concepts’ that are grouped together in a higher order of classification to form categories. Opler (1945) suggest that the importance of a theme is how often it appears in the data and how pervasive the theme is across different types of practice. Importantly, he also proposes that the degree to which a theme’s expression is controlled by specific context also is an indicator of its importance.

Expressions, words & phrases were ordered using ‘a priori’ and inductive codes. In practice, this meant going through the verbatim text and inserting codes next to the relevant text. I highlighted the text in different colours and then sorted the text based on these colours into the four different categories (Technology, Competency, Evidence and Assessment/Appraisal Judgments). These are identified in step three of the general data analysis, based on their conceptual meanings. This is conceptualised as cutting and sorting text (Lincoln and Guba, 1985).

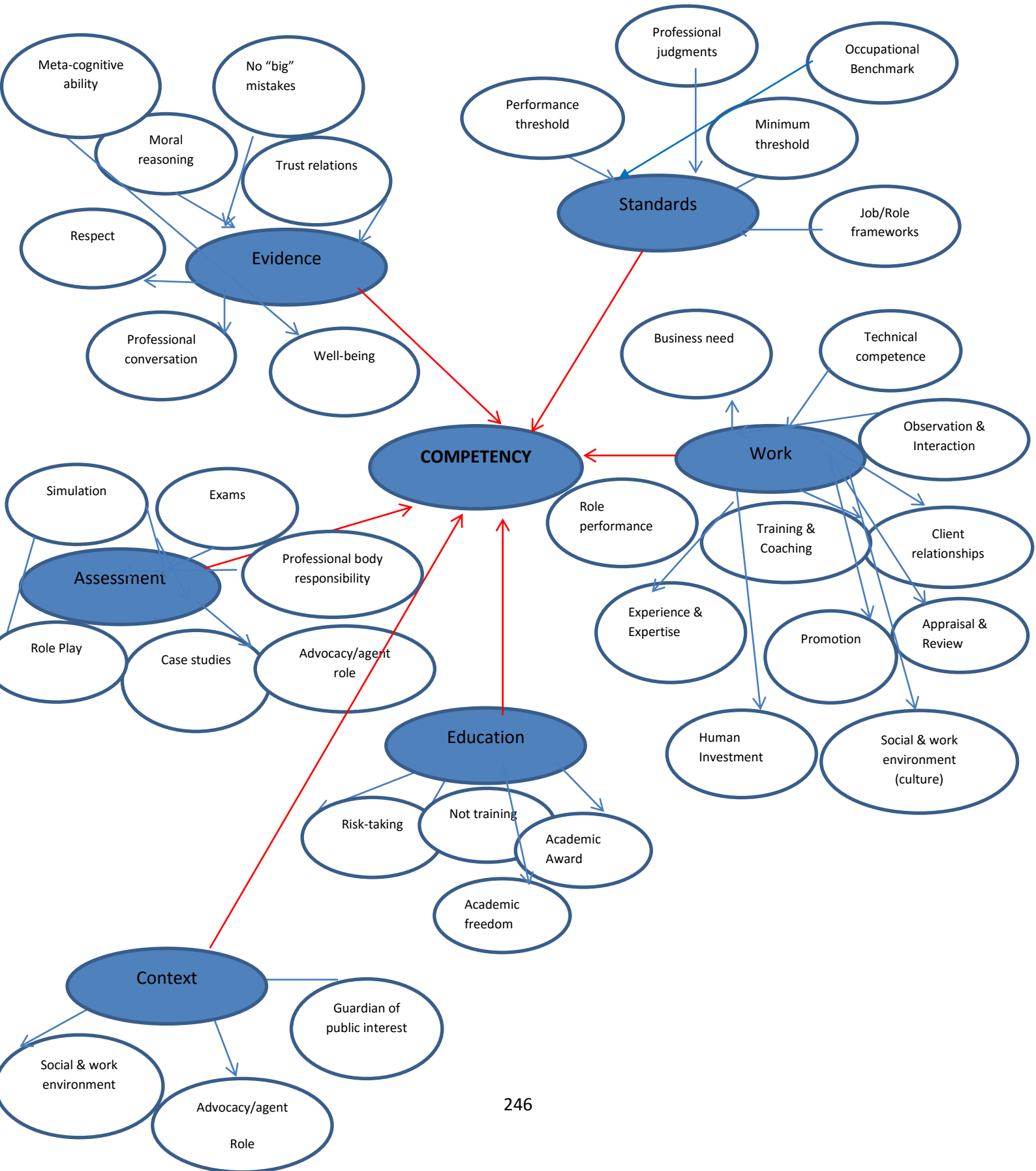
Spider diagrams to present categories consolidated into themes

The next section of this chapter provides a relational analysis of the codes emergent from initial identification of themes. I have used spider diagrams to show the connections between the different themes emergent from analysis of the different categories.

I came across the use of spider diagrams to make sense of the links between the themes in a paper explaining the role of coding in qualitative data analysis by Tehina Basit (2003). She reports on an empirical study undertaken for her PhD on the aspirations of adolescent British Muslim girls and how these aspirations were being shaped. Although the study is not an abductive study, it is an in depth case study that explores interpretations, feelings, beliefs and experiences, in the same way as this research study. Basit's study started with 72 broad categories that were consolidated to 23 categories and the six main themes.

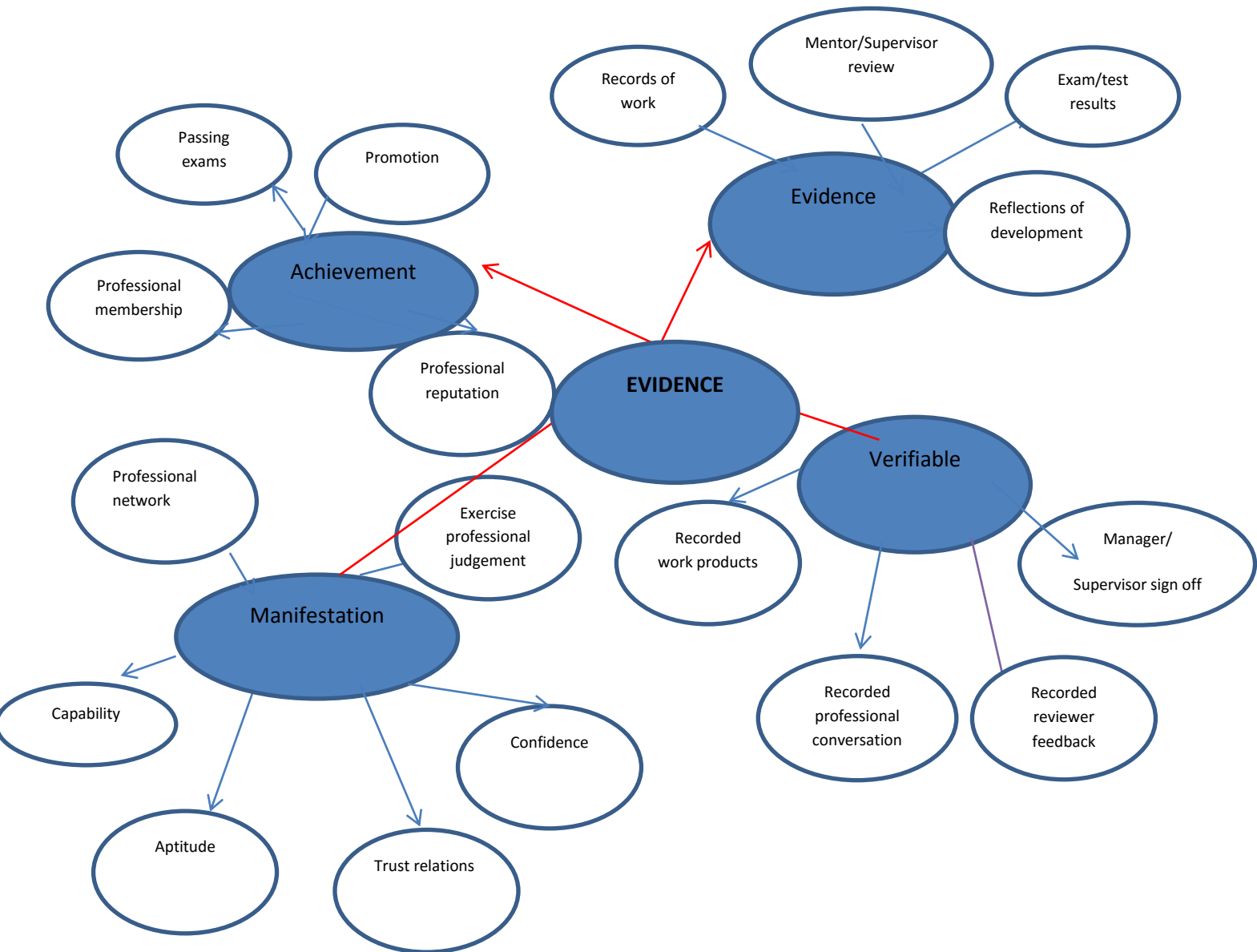
I have followed her thematic analysis approach to showing how categories have been consolidated into themes through Braun and Clarke's (2006) 'step 4' – Thematic analysis. Thus, chapter 4.1.1 presents the spider diagrams of each category. The analysis that follows provide relational meaning of the codes, clustered into categories. The themes emergent from analysis of the relational meaning of the clustered codes are presented in summary tables underneath the spider diagrams. The dominant themes in the data are used to re-frame the theoretical framework developed after the literature review, thus incorporating verifiable evidence and technology-mediation. The reframed theoretical framework is presented at the end of this chapter.

4.1.1 Step 4 - Relational analysis of themes and categories relating to Competency



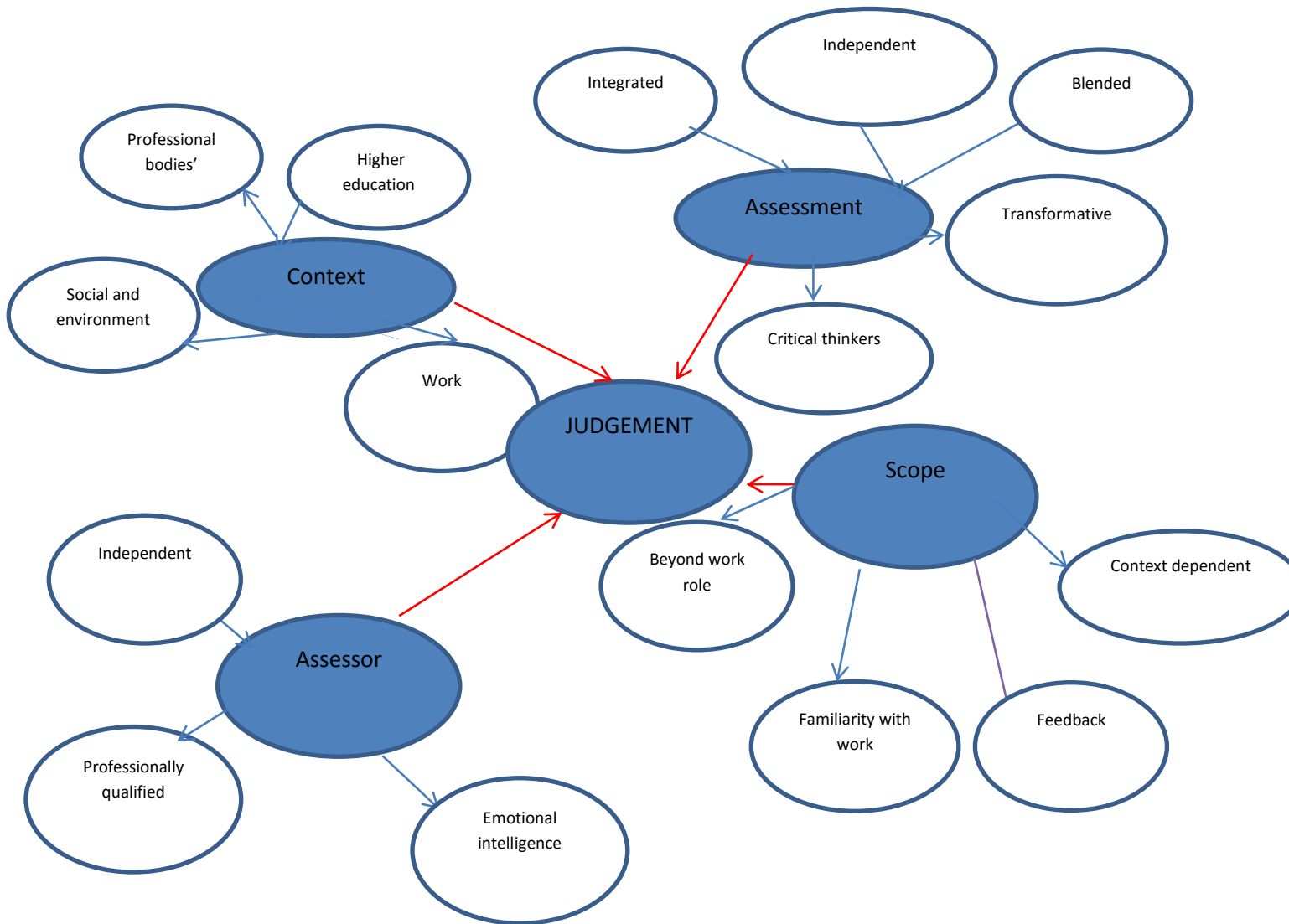
CATEGORY	Recurring codes	Patterned meaning – Relational analysis	Themes
COMPETENCY	Technical competence Moral reasoning Trust relations Respect Well-being Capabilities Professional judgment Minimum performance threshold Occupational benchmarks Role/Job frameworks Client relationships Job appraisal Business need/justification Human Investment	Development of technical competence is rooted in work Assessment of competency can take place outside of work but is based on work activities and occupational standards are applied to assess performance Evidence of competency is demonstrated in personal attributes & relations rather than in tasks performed for work Education should enable risk taking and academic freedom	Competency incorporates human capital, social capital and decisional capital Standards applied to assessment of competency are based on occupational goals but should be based on PAB requirements Assessment of competence is based on role performance in work A wide range of assessment tasks should be used to assess competency Assessment of competency should incorporate work tasks but be based on advocacy/agent role acting in public interest

4.1.2 Step 4 - Relational analysis - Evidence of professional competency



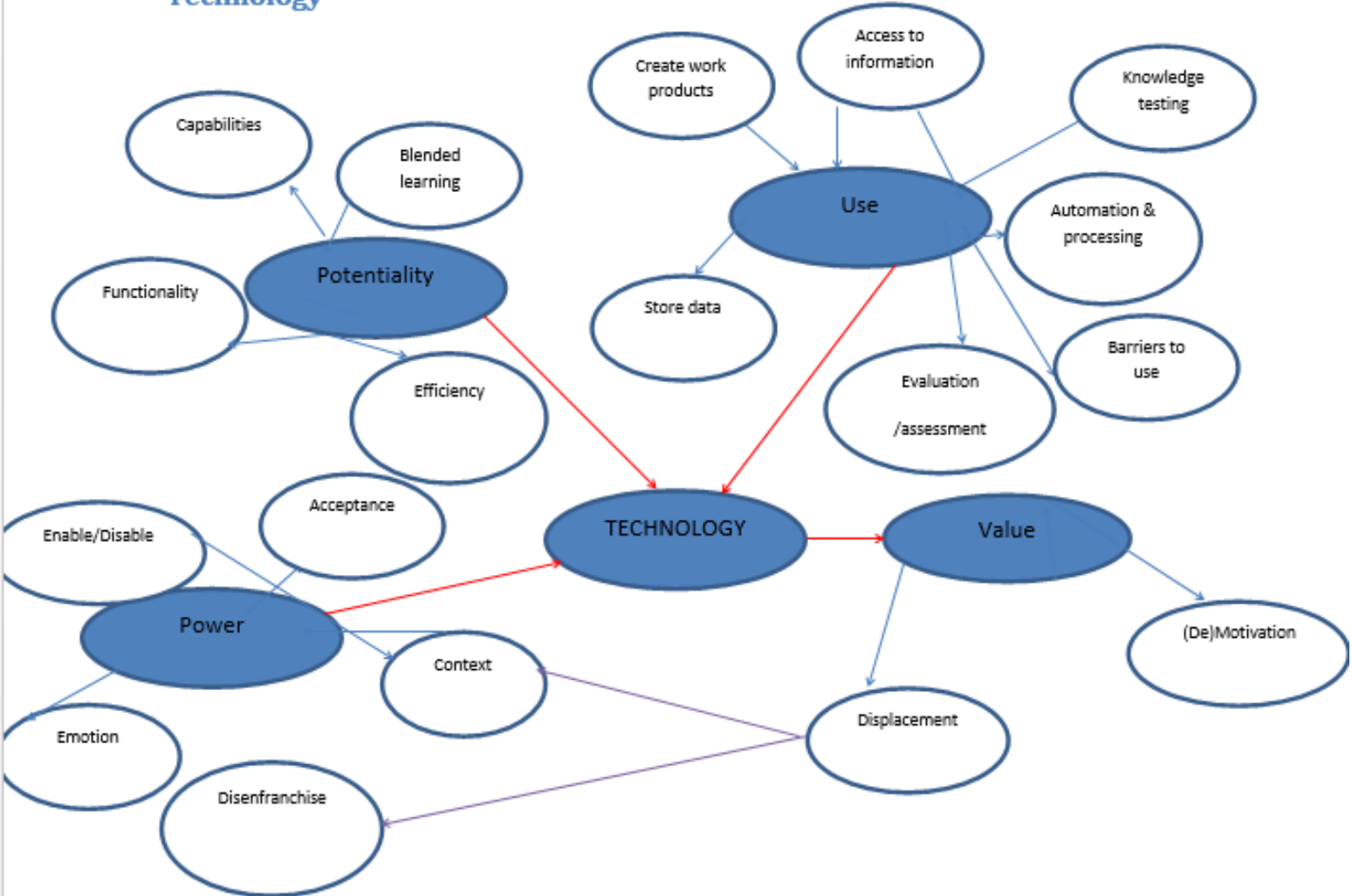
CATEGORY	Recurring codes	Patterned meaning – Relational analysis	Themes
EVIDENCE	Achievement of PAB exams/tests Records/recording of work experience Passing performance reviews Professional experience Professional respect Aptitude Trust Confidence/Well-being Capabilities Professional network Promotion/continued employment Membership to professional body	Evidence of professional competency is a record of achievement grounded in professional experience and PAB exam assessment Evidence of professional competency is both explicit and tacit but grounded in action Verifiable evidence requires authorisation and verification of achievement and feedback	Competency is evidenced in professional qualities and experience Evidence includes records/reflections of capabilities and achievement of work tasks Verifiable evidence needs to be recorded, credible proof of achievement in action

4.1.3 Step 4 - Relational analysis -Judgement/Assessment of competency



CATEGORY	Recurring codes	Patterned meaning – Relational analysis	Themes
JUDGEMENT	<p>Higher Education</p> <p>Work</p> <p>Professional context</p> <p>Independent</p> <p>Social and environmental context</p> <p>Assessment</p> <p>Integrated/blended assessment</p> <p>Assessment beyond job role</p> <p>Workplace assessment</p> <p>Critical thinkers</p> <p>Transformative assessment</p> <p>Familiarity with person and work</p> <p>Feedback</p>	<p>Judgment of competency occurs in higher/professional education & work</p> <p>Judgments incorporate different social contexts but based on PAB exam exemption requirements</p> <p>Assessment of competency should be independent, blended and transformative</p> <p>The person carrying out the assessment should be qualified to do so (PAB representative)</p> <p>The scope of judgments made about competency should not be limited to work, although familiarity with the work and person is required.</p> <p>Judgments made should also incorporate feedback</p>	<p>Judgments about whether competency is achieved is context dependent</p> <p>Judgments of competency requires an assessment of competency</p> <p>Assessment of competency (for the purpose of professional membership) is the responsibility of the professional bodies</p>

4.2.1 Step 4 - Relational analysis of themes and categories relating to Technology



CATEGORY	Recurring codes	Patterned meaning – Relational analysis	Themes
TECHNOLOGY	Use/Barriers to use Access Automation Potentiality Capabilities Functionality Context Acceptance/Compliance Motivation Emotion Cognition Meta-cognition Blended learning environment	Use of technology is rooted in action Technology has the power to enable or disable users' intended actions depending on context in use The value placed on technology is contextual and relates to potentiality and use Technology mediates contextual experiences, evoking sensory engagement or disengagement	Technology is used for a wide range of actions in work and study Technology is useful and valuable based on use in action and ascribed potentiality based on their capabilities Barriers to use of technologies disempower those who are motivated to use them Technology lacks emotional intelligence/empathy

4.2 Step 5 - Inclusion of technology - Reframing the theoretical framework of professional competency

Reframing of the theoretical framework is necessary in order to provide scaffolding and context in which the phenomenon is grounded. The framework provides theoretical underpinning to the development of an operational conceptual technology-mediated professional competency assessment model. In addition, it is important that the inter-related theories (which do not fall into one overarching theory) provide a lens through which the complex phenomenon of technology-mediated competency assessment can be applied to explore actual events. The reframing of the theoretical framework enables the lens through which experiences of the participants are filtered (Coryn et al, 2011) to be expanded beyond the theoretical proposition.

Following analysis of empirical data collected from interviews with participants and a review of the literature, the theoretical framework emergent from the literature review has been revised and developed. The following section explains the process of review and the revised technology-mediated theoretical framework of professional competency assessment.

Danermark et al (1997) explain that adopting an abductive approach leads to formation of a new conceptual framework or theory. An abductive approach allows me as the researcher to formulate new ideas about professional competency. In addition, by revisiting the literature, as well as analysis of the data, issues and features of competency assessment not incorporated in the theoretical proposition are considered.

The reframed theoretical framework is informed by analysis of themes from the interview data and literature. There are two fundamental distinctions between this framework and the original framework developed after the literature review. This reframed framework incorporates the mediation of technologies and is based on the construction of verifiable evidence.

It incorporates new, previously unexplored themes pertinent to the research study. For example, the reframed theoretical framework incorporates new theory that was discovered through the iterative process of data analysis and literature review. Specifically, it is here that I came across the work of Hargreaves and Fullan (2012) on professional capital. This concept encapsulates the competencies that were referred to by participants as those that should determine successful accomplishment of an aspiring professional accountant.

The process of developing the technology-mediated theoretical framework is detailed below;

Stage 1 – Analysis of dominant themes

The first stage of the reframing of the theoretical framework is based on themes identified in the analysis of the interviews. The dominant themes are presented in the table below. The themes are relationally reordered i.e. aligned by content.

	DOMINANT THEMES by CATEGORY			
	TECHNOLOGY	COMPETENCY	EVIDENCE	JUDGMENT/APPRaisal
Theme 1 (Context/action)	Technology is currently used for a wide range of actions in work and study	Assessment of competency is currently based on role performance in work	Evidence includes records/reflections of capabilities and achievement of work tasks	Judgments about whether competency is achieved is context dependent
Theme 2 (Competency)	Technology is useful and valuable based on use in action and ascribed potentiality	Competency incorporates human capital, societal capital and decisional capital	Competency is evidenced in professional qualities and experience	Judgments of competency requires an assessment of competency

	based on their capabilities			
Theme 3 (Evidence of competency)	Barriers to use of technologies disempower those who are motivated to use them	A wide range of blended (using technology) assessment tasks should be used to assess competency	Evidentiary materials detailing performance and achievement should be from a wide range of sources.	Verifiable evidence needs to be recorded, credible verification of achievement in action
Theme 4 (Assessment of professional competency)	Technology has the capability to assess meta-cognitive performance but lacks emotional intelligence to make required judgments	Standards applied to assessment of competency are based on occupational goals but should be based on PAB requirements	Assessment of competency should incorporate work tasks but based on advocacy/agent role acting in public interest	Assessment of competency (for the purpose of professional membership) is the responsibility of the PABs

Table 15 Dominant initial themes

Stage 2 – Development of first version of revised theoretical framework

Five of the academic assessors interviewed responded to an email request to critique the developing theoretical framework and “approved” the final version presented in stage 3 (at the end of this chapter.)

Below are comments/my interpretations of comments made by academic assessors during the process of review;

- 1) The process of competency assessment should not be linear – it should be cyclical

- 2) The context in which performance is assessed is fundamental to the whole process of professional competency assessment.
- 3) Technology should be made explicit in the model. It mediates all stages of the competency assessment process, transforming interactions, actions and the construction of evidence.
- 4) Different evidentiary rules should apply for different contexts, although the actions of performance within the varying contexts should be comparable
- 5) Professional capital should not be distinguished into its separate parts as it is an integrated construct. Performance and capability evidence incorporates dimensions of human capital, decisional capital and social capital – they are not conceptualised as mutually exclusive.

Before presenting the revised theoretical framework, it is important to clearly define the collective definitions of the elements of the theoretical framework, as articulated by participants and literature.

Technology-mediated professional competency assessment environment

“An environment in which aspiring professional accountants’ interactions with competency evidence and assessors are mediated through technologies.”

(Adapted, Alavi & Leidner, 2001)

Information ecology

“A dynamic and collaborative network of social actors, artefacts, practices, values, and technologies in which interactions are focused on the socialisation of aspiring professional accountants.”

(Adapted, Nardi & O’Day, 1999)

Assessment community

“Assessors assess the competency of aspiring professional accountants. They make judgments on which they evaluate whether proficiency standards of performance expected of a newly qualified professional accountant has been met by the aspiring professional accountants on completion of their IPD.”

Competency Evidence (Performance and Capabilities)

Evidence = Artefacts + Reflections (Rationale) + Validation (Feedback)

(Barrett, 2003)

Verifiable evidence

Verifiable evidence is electronic (portfolio) evidence that can be corroborated as expressly representative of the performance of the aspiring accountant. There is broad consensus as to its contents, even if the interpretation of it is contested by assessors. Verifiable evidence is independently observed and assessed.

Professional capital

Professional capital incorporates the competencies that participants of the study believed should be evidenced for assessment of competency;

Human capital - Qualifications, knowledge, case preparation, skills, emotional intelligence, professional intelligence, experience

Societal capital - trust, collaboration, collective responsibility, mutual assistance, professional networking, push & pull, health and well-being, respect

Decisional capital - professional judgment, case/client experience, practice, moral challenge/reasoning, stretching reflection

(Adapted, Hargreaves and Fullan, 2012)

The following framework has been developed through analysis of empirical data, review of documentary materials, iterative literature review analysis and engaged scholarship with interviewed participants.

Reframed theoretical framework – Technology-mediated professional competency

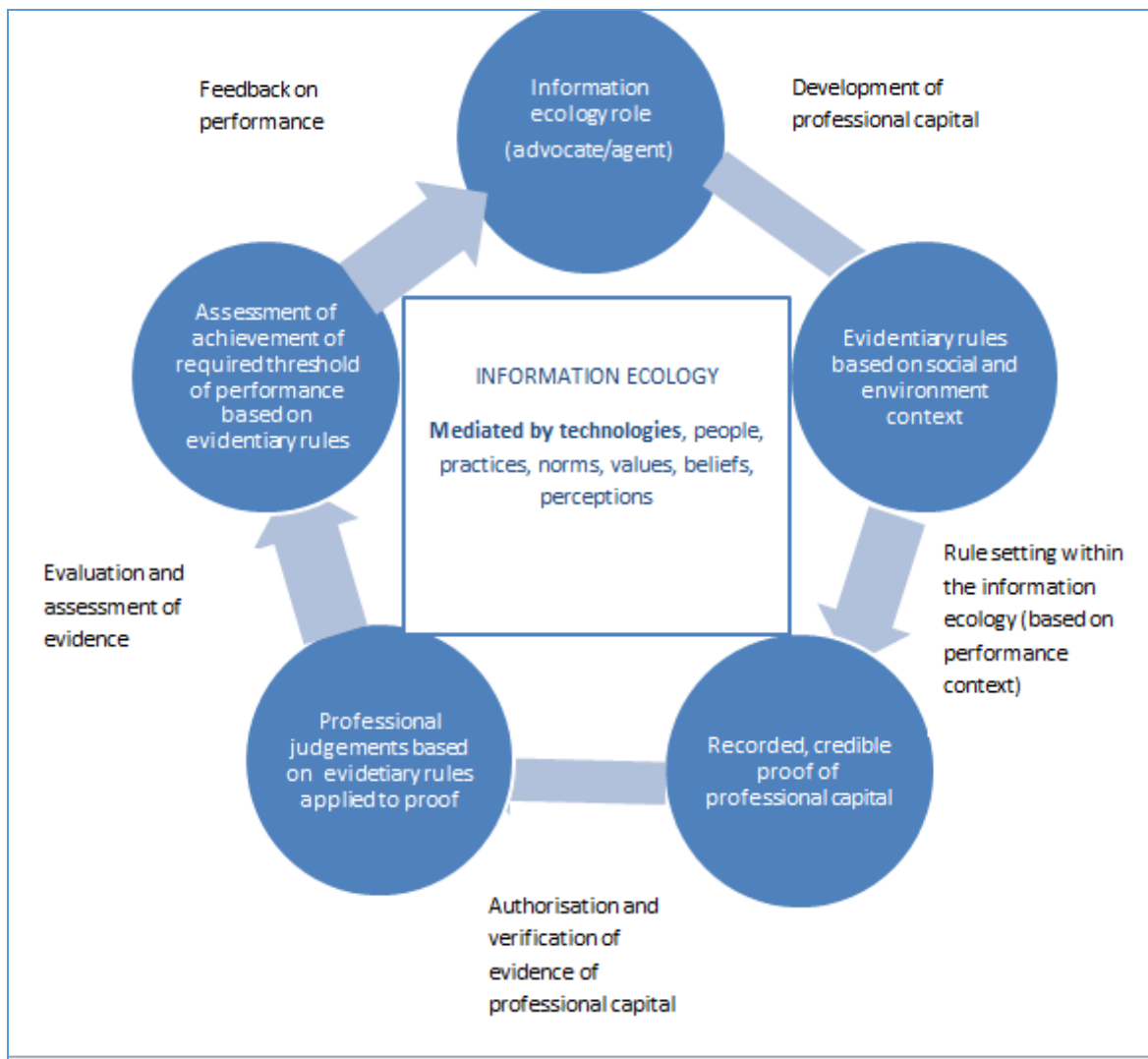


Fig. 21. A theoretical framework of technology-mediated IPD assessment in which verifiable evidence is constructed

It is clear from this framework developed through analysis of the interview data, and iterative literature review, that the assessment environment is mediated by assessors & assessees, evidence and technology. Hence, the theoretical proposition is substantiated. However, this re-framed framework enables exploration of the experiences of participants of the study beyond the theoretical proposition.

4.3 Summary

The general findings concluded from analysis of the interview data, documentary materials and literature review, suggest that the theoretical proposition is “subjectively true”. That is that is;

“Technology is an agent that mediates interactions between assessors, assessees and evidence within the competency assessment environment of aspiring professional accountants “

There are many inter-related theories e.g. social and environmental context, information ecology, verificationism and agency, in which the phenomenon of technology-mediated competency assessment is grounded. The themes relating to these theories that have emerged from data analysis are further explored and expanded in order to gain further understanding of the phenomenon.

The next chapter is the first of three empirical chapters that strive to answer the research questions set. Specific themes and associated relational meanings relevant and pertinent to each research question have been explored further and presented as findings in each chapter. In effect this is the final step, ‘step 6’ of Braun and Clarke’s thematic analysis approach, “Producing a report.”

5.0 CHAPTER FIVE (RQS 1 & 2)

5.1. Evaluation of current PAB evidentiary materials for practical experience assessment.

This chapter aims to address research questions 1 and 2 (see Chapter 1.5)

The purpose of evidentiary materials is to enable valid judgments regarding successful accomplishment of performance to be made on which assessment decisions are then based (i.e. competency assessment)

Consequently, the empirical chapters of the thesis focus on evidentiary materials relating to practical experience (rather than education). The reason for this is that competency is grounded in action and performance in an applied, work based setting in which practical experience is gained.

Workplace assessors initially suggested that there is no issue with the verifiability of the evidentiary materials submitted for competency (practical experience) assessment. However, upon further questioning, they shared stories of embellishment of assessee practical experience records.

Additionally, assessors and assessees shared stories of acquaintances who had got friends to sign off practical experience, (particularly on paper based records) as well as managers signing off work that had not been carried out. At the other end of the spectrum were stories by assessees, of assessors who had refused to sign off evidentiary materials, not because experience had not been gained, but for self-interest reasons e.g. to eliminate the prospect of promotion of the aspiring professional accountant and protect their own position.

One workplace assessor sums up a very commonly cited issue with the evidentiary materials for practical experience assessment;

“The issue was in terms of any audit or assurance – I put down that I had done all of this stuff, my boss who isn’t an accountant said yes I certify that X displays all these skills and tasks but it could have been a complete work of fiction” (Workplace assessor #2)

The following section is divided into two sub-sections (Chapter 5.1 & Chapter 5.2).

Section one (5.1) makes reference to issues associated with evidentiary materials constructed for professional competency assessment, thus answering RQ1.

Section two (5.2) makes reference to issues associated with multiple actors making judgements based on verifiable evidence; thus answering RQ2.

Observations referred to in the empirical chapters are an aggregation of participants’ views, comments, perspectives and perceptions relating to historic (post-2003), current and future IPD assessment.

5.1.1 Validity issues associated with practical experience recording

Cureton (1950) took the essential question of validity to be "how well a test does the job it is employed to do" (p. 621). Validity issues are associated with *what* is assessed in practical experience to determine that competency has been achieved. In other words, does successful accomplishment of the requirements of practical experience recording mean the aspiring professional accountant has demonstrated competency?

Performance evaluation

Assesseees explain that evidentiary materials are used to record practical experience of performance in their job;

“I have to make sure I keep it updated and book appointments with my Partner. You basically fill it in with a situation and how you think you have achieved the competency and the partner reads it and then he approves it. The reviewer meets with the partner to discuss the jobs.” (Assessee #3)

Here, we see that evidence of performance is driven by the assessee and her performance in her job role. Evidentiary materials require that practical experience that is evidenced, is '*relevant work experience*.' (PAB representative #5). ICAEW participants are all current or former audit associates/senior associates employed on a training contracts in audit and assurance. Current associates express that the diversity of their work in audit means that they feel they will achieve the practical experience requirements. Assessors who had trained within 'Big Firms', explained that their experience was often 'shoe-horned in,' so that practical experience requirements could be met. This is due to the fact that these participants did not have an opportunity to work elsewhere in the firm. Typically, CIPFA participants, working in large public organisations are rotated in their work in order to meet practical experience requirements, as a condition of their training. ACCA participants interviewed, often worked in a job (rather than a training contract) and asked management for periodic access to other parts of the organisation in order to gain the experience needed, which was granted.

Successful accomplishment of practical experience is dependent on achievement of a range of objectives linked to one's job. This is referred to by Evetts as 'organisational professionalism' (2006, 2011). She reports that 'organisational professionalism' is operationalised as a control tool by organisations. In practice this means performance evaluation is in the context of organisation set targets and priorities. A feature of organisational control is the control of labour and jurisdiction of the aspiring professional accountant, to the extent that the needs of the organisation supersede those required of the PAB.

..” I don't think you need a range of experiences for ACA – they don't define any practical experience that you need – you just do the job...There's chances for secondment but there has to be a business need for it – they have to need you and there has to be chance for you to be replaced and there's a big recruitment process for it.” (Assessee #1)

Therefore, practical experience captured and recorded by evidentiary materials by assessees, is in some instances restricted to jurisdiction of practice controlled by the organisation that the assessee works for, rather than that required by the evidentiary materials. This also means that the length of time in different jurisdictions is often determined by organisations as well. A number of participants (n=6) explained that they were permitted to rotate around the organisation on secondments or informal placements to gain experience for a few days in the areas of practice missing from their practical experience records.

Generally, PAB evidentiary materials do not require distinction between different forms of work e.g. secondment, placement, substantive role etc. However, ICAEW evidentiary materials require that aspiring professional accountants differentiate their experience on the basis of secondments at other ATEs and days spent on technical work experience.

Self-interest rationale

It is noted that organisations (including PABs), as well as groups of individuals or individuals themselves, seek to protect their own self interests. Within the context of practical experience assessment this can lead to preferential treatment of those aspiring professional accountants achieving organisation set targets and goals. However, the protection of self-interest at organisation level may have a detrimental impact on how organisations manage the health and well-being of their employees. A small number of participants (n=4) referred to health and well-being as important to performing well and competently in one's work. PAB evidentiary materials relating to practical experience do not make reference to the health and well-being of the aspiring professional accountant. However, ICAEW's TWE states the employer must "*Enter that the student is a fit and proper person to continue approved training.*"

Some participants told of experiences of colleagues they worked with not being able to evidence practical experience due to workplace mentors refusing to sign off experience. The reason for this

being that they didn't want to lose the human resource of the trainee, who would be sent to another area once they achieved their performance objectives. Additionally, aspiring professional accountants told of experiences where workplace mentors refused to sign off practical experience records because they did not get along personally with each other, rather than because experience at the required standard had not been accomplished. In some instances, practical work experience was signed off that had not been undertaken. One assessee says;

"Some of the managers are ticking stuff off if they have said that they have done it – my manager will dig a bit deeper and ask questions and things" (Assessee #3)

Clearly, assessment practices are inconsistent and often influenced by the self-interest and motivation of the assessor. There are no safeguards within PAB evidentiary materials themselves to mitigate this risk. In response to this claim, all PAB representatives suggest that assessees can report such instances to them via their ethics hotline. One PAB representative suggested that aspiring professional accountants could report this sort of practice in house. However, it is acknowledged by assessors that this presents obvious issues;

"It's having the confidence to either challenge the culture of the organisation through speaking out or as you rise through the organisation, behaving in an ethical manner that might be counter to the culture" (IAESB representative #2)

The need for ethics to be assessed as part of practical experience and evidenced is a widely held belief amongst many participants and is linked with professionalism and professional identity.

Assessment of adherence with public interest principle

A dominant theme that emerged from the data is based on discussion as to whether the role of a professional accountant is one of working as an advocate on behalf of a client or an agent of society, or indeed both. The role of the accountant in this context should be explicit in the evidentiary materials submitted for assessment.

Personal effectiveness and professional judgment competencies of ICAS and ICAEW make direct reference to *“building relationships and adding value to your employer or your client.”* ACCA notes of professional judgment that *“decisions based on a duty to others, taking account of potential consequences and considering the greater overall benefit for the company, its stakeholders and wider society.”* However, this is assessed in accordance with ‘rules and relevant legislation.’

Generally, PABs rely on adherence with their codes as *‘a moral compass’* (IAESB representative #4) rather than use them as part of judicious criteria of assessment. However, ICAS and ACCA have standalone ethics training modules which have to be completed and passed before membership is awarded. ICAS Achievement log stipulates that the aspiring professional accountant has to acknowledge that they understand “The Code” of ICAS. Additionally, ACCA, ICAEW and CIMA require implicit confirmation that the aspiring professional accountant has adhered to serving the public interest by signing a declaration within the practical experience records at the end of IPD. AAT has a separate code for its student members, which again requires a signed declaration. CIPFA requires that ethical consideration is demonstrated within the PEP submitted for assessment.

PAB evidentiary material	Public interest in practical experience of aspiring accountant	Code of Ethics
ACCA – MyExperience	<p>“serving public interest” not explicitly referred to in practical experience record – embedded in mandatory performance objective;” Professionalism and ethics”</p> <p><i>“Act diligently and honestly, following codes of conduct, taking into account – and keeping up-to-date with – legislation.”</i></p>	<p>The ACCA Code of Ethics and Conduct is based on the IESBA Code.</p> <p>5 Principles based on IESBA Code (see above)</p> <p>Sign up to on membership</p>
CIMA – Practical Experience	Not explicitly referred to the Career	The conceptual framework approach assists professional accountants in complying with

	<p>Profile.</p> <p>Professional accountant has “<i>a duty</i>” to comply with The Code.</p>	<p>the ethical requirements of this Code and meeting their responsibility to act in the public interest</p> <p>(principles as per IESBA Code)</p>
CIPFA – PEP	<p>PEP scheme includes a specific requirement to discuss ethical considerations in relation to each of the evidenced activities within your portfolio.</p>	<p>The CIPFA Standard of Professional Practice on Ethics (which is based on IFAC’s Code of Ethics for Professional Accountants), applies to registered students as well as to CIPFA members, and you should therefore be fully aware of its content.</p>
AAT – MyAAT	<p>A Student must comply with AAT’s Code of Professional Ethics</p> <p>Our Code of Professional Ethics sets out five fundamental principles which all AAT members (student, affiliate, associate, full and fellow members) must comply with.</p>	<p>The AAT Code of Professional Ethics is based on IFAC’s Code of Ethics (principles based)</p> <p>5 Principles based on IESBA Code (see above)</p>
ICAEW – TWE form	<p>TWE form requires the work “was a fit and proper person at the end of the approved training period....to become and ICAEW member”</p>	<p>Principles based code based on International Standards Ethics Board’s Code (IASEB)</p> <p>Professional accountants (IFAC member) have a responsibility to take into consideration the public interest (considered in more detail in paragraph 100.1) and to maintain the reputation of the accountancy profession. Personal self-interest must not prevail over those duties.</p>

		This Code helps professional accountants to meet these obligations by providing them with ethical guidance.
ICAS – Achievement Log	“During this period of my training contract, I have understood and complied with the fundamental principles of the ICAS Professional Conduct for Members Guide”	ICAS Code of Ethics – Principles based (n=5) code based on IESBA Code Integrity – • Objectivity; • Professional competence and due care; • Confidentiality • Professional behaviour Sign up to on membership

Table 16 Each PAB’s Code of Ethics within evidentiary materials of practical experience

The IFAC Statement of Membership Obligations 4 requires IFAC member bodies to adopt an ethical code no less stringent than the IESBA Code. Documentary analysis of PAB evidentiary material demonstrates that all PAB’s Code of Ethics reflects/mirrors that of IAESB. In all cases, a principles based, conceptual code is used by PABs. Additionally, all PABs embed ethics within their exams (although this a fairly new practice e.g. AAT introduced it in 2013). There is no question that ethics is recognised as important, significant and fundamental to becoming a professional accountant by PABs. Professional ethics and the public interest principle are seen very much as intertwined by participants and very much an integral part of competency.

This is affirmed in documentary analysis of the Profession Ethical Code and IFAC Policy Documents; Ethics – “A distinguishing mark of the accountancy profession is its acceptance of the responsibility to act in the public interest. Therefore, a professional accountant’s responsibility is not exclusively to satisfy the needs of an individual client or employer. In acting in the public interest a professional accountant should observe and comply with the ethical requirements of this Code.... A professional is required to comply with the following fundamental principles; Integrity.... Objectivity....

Professional competence and due care.... Confidentiality...Professional behaviour” (Code of Ethics for Professional Accountants, 2011)

Public interest – “IFAC stresses that the “public” is inclusive of all society, it identifies the broad groups that comprise the public and how each group is impacted by the accountancy profession. For “interests,” the benefits that should be realized from the responsibilities of the accountancy profession and the associated costs are identified. These benefits and costs are generally, but not always, economic in nature and their implications will impact different levels of society. (IFAC, 2012)

Two PAB representatives (CIMA and ICAEW) raised the issue of making specialised services affordable as an important consideration in serving the public interest. However, the principle was not explicitly referred to in assessment of practical experience, though implicitly by reference to ethics within evidentiary materials. Academic assessors in particular, feel that PABs need to take more of a leading role in ensuring that the public interest principle is part of the assessment of practical experience. One assessor says;

“The professional bodies, particularly the accounting ones do say, what you can and can’t do – there is a need for them to contribute to the debate of what reporting system is appropriate given you are part of civil society and have a social purpose – I probably didn’t conceptualise it at the time but that’s the way I have come to think about it” (Workplace assessor #8)

However, although ethics is a really important and an integral part of competency, participants acknowledged it is very difficult to evidence unless behaviour is observed and assessed;

“Ethics is only ever just going to be repeating words – it’s a bit like learning your prayers for the church – either you’re thinking what you’re saying or saying it because you have been taught what to say...the thing about an accountant having integrity, objectivity – you can only test integrity by putting someone on the spot and seeing what they do – all sort of euphemisms in society that’s not unethical – it might just not be appropriate – it’s not just black and white and it’s not just tell

everyone the truth all the time – sometimes you have to genuinely keep things confidential and if other people don't understand that it can be tricky” (Academic Assessor #5)

Participants feel that ethics is demonstrated in action and therefore, its assessment should extend beyond ‘knows/knows how’ which is the approach adopted by ICAEW. Although, they argue that, *‘ethical scenarios require complex analysis and decision making’* (PAB representative, ICAEW).

Instead assessors suggest that assessment should be based on ‘shows how/does.’

This is certainly achieved to some degree by some PABs e.g. ACCA ethics simulation module and ICAS structured training in ethics (STE). Whilst assessors suggested that these forms of assessment are useful, the main criticism of these forms of assessment is that they are very rules orientated. CIPFA adopts a different approach that is more personalised and requires aspiring professional accountants to reflect on ‘ethical considerations.’ This approach is favoured by academic assessors.

However, a number of PAB representatives (n=3) pointed to the limitations that they face in being able to assess ethics in a way that goes beyond awareness and understanding. It is clear in analysing interview data that PABs do not perceive themselves as *‘moral guardians’* (PAB representative #1).

Whilst documentary analysis of PAB evidentiary materials suggests that ethics is assessed in practical experience through job reviews and appraisals, PABs suggest that evidentiary materials should raise awareness and guidance of ethics rather than assess it;

“Is it the purpose of assessment to validly record what that person knows, what they understand and how they apply it in that room on that day –Yes? Is it the role of assessment to be their moral guide, their moral compass once they step out of that room – no...So it comes down to the purpose of assessment and what you are saying somebody can do – we cannot legislate for how people actually behave in the real world – we can guide, we can require and if they are a member of a professional body we can legislate to a degree.” (PAB representative withheld at their request)

It is clear that PAB evidentiary materials require aspiring professional accountants' record and confirm that they have adhered to "The Code." However, the reality is that assessment of whether aspiring professional accountants have complied with the code at an individual/professional accountant level, (rather than their knowledge of ethics) is carried out by organisations rather than PABs. Significantly, PABs obviously think that this is the correct approach and whilst they have put in safeguards e.g. Professional or regulatory monitoring and disciplinary procedures, the fundamental principles of "The Code" are demonstrated and assessed within organisations.

This means that adherence to "The Code" (and therefore, the public interest principle) is assessed in terms of 'organisational professionalism.' (Evetts, 2008, 2012). This is arguably a proxy measure of performance based on the self-interest of an organisation rather than the wider principle of public interest. However, a Finance Director from a voluntary organisation notes;

"I suppose you could construct an argument that they (self-interest and public interest) are not either or. In that if you are working for a profit making business maximising shareholder value that then benefits society, the economy benefits and everyone benefits from that. If you didn't construct that argument you are working for the man – frankly unless it's actually something really dodgy beyond the realms of ethics, you have two choices that are not ethically unpalatable – one of which has more social benefit and one which has more pocket benefit to who owns the business. It's the guy who owns the business – who is paying the wages – so I think that's the reality where there are choices to be made. I think that as long as we work in a society that operates a capitalist system, I don't think it would be sensible to operate the competency assessment in any other way, then the one that is real. I think anything exists in its environment – it only has meaning in the context in it sits" (Workplace assessor #5)

PAB representatives are clear that serving the public interest underpins ethical and professional behaviour. In fact, the IESBA code, makes explicit reference that public interest comes before self-interest. However, a PAB representative notes;

“The institute would say that the interests of the public come first, so all accountants should be able to say we are acting in the interests of the public society first and I am doing my job second.

However, you and I know that this isn’t always the case.” (Former PAB representative, withheld)

Certainly, participants feel that the practical experience evidentiary materials used to assess the performance of aspiring professional accountants do not require judgments of whether that person was serving the public interest, in any other ways than that required of their job. Assessee explain that ethical consideration is part of their practice or job role;

“We haven’t done anything specific on ethics – we cover it on CIPFA exams – with all these extra workshops it is built in – it is inherent in the nature of the NHS really – we did office politics last week!” (Assessee #3)

Another assessee notes;

“A month ago, I had training on money laundering – we had training on that – in all of our working papers, we have to fill out a section to say we have considered money laundering...I think it was created by the organisation... I needed the training to answer the questions, it was in-house training – one hour in the audit department” (Assessee #2)

It is clear that ethics training is made available by organisations to some assesseees. However, the assessee interviewed who is working at a private medium organisation has no access to additional training beyond that for her AAT exams.

It is the case that aspiring professional accountants interviewed, do not perceive ethics as part of their professional identity as agents of society but more as essential considerations of their job role, (which may or may not require advocacy for ‘the client.’). PAB evidentiary materials do not expressly address the need for assesseees to recognise their individual moral responsibility in all decision making. CIPFA is the only PAB that requires aspiring professional accountants explicitly evidence their moral reasoning associated with decision making referred to within the PEP.

The reality is that performance of an aspiring professional accountant is based on their performance in their job, within the context of their job role and what is required of their role. It is the case that in doing so, an aspiring professional accountant may perform very well in terms of their job role, but not actually comply with PABs' Ethical code which is utilitarian in nature. Within PAB evidentiary materials of practical experience recording there is little requirement (or indeed raising of awareness of the need) for the aspiring accountant to demonstrate how they have served the public interest. Yet, we have seen that this principle is considered a cornerstone of professional accounting practice.

Some assessors (n=6) believe that there is a need for assessment to not just raise awareness of ethics but to change hearts and minds. One workplace assessor says of ethics training and its assessment;

..." What is needed is to do some work to build up the mind-set – create Pavlovian reaction.... you can build that up and change a mind-set – it needs to be branded as independent – that makes sense – the psychology of the whole thing is quite important..." (Workplace assessor #3)

This concludes the section relating to validity issues associated evidentiary materials associated with practical experience recording. The following section makes reference to trustworthiness issues associated with judgements regarding successful accomplishment of work based performance in the competency assessment environment.

5.1.3 Trustworthiness issues associated with judgments on which evidentiary materials are based.

Participants acknowledge that third party assurance i.e. PAB assessment based on evidentiary materials submitted assumes a general level of trust in the process. A former PAB representative notes;

The system does depend on the employer being conscientious and truthful – you could see that the system could become broken. I do think that is the weakness of the system, how you verify experience. Now whether the institutes concerned could put more onus on the student, I don't know. We require some more evidence or some description of what you were involved in..." (Workplace assessor #9)

The assumption of trust between employing organisations and PABs poses obvious issues;

"I have heard of people making up experience and getting a friend to sign it, oh yeah and I can imagine it happens loads" (Assessee #2)

Lincoln and Guba (1985) suggest that ensuring credibility is one of the most important factors in establishing trustworthiness. Merriam (2001) explains credibility poses the question, "How congruent are the findings with reality?" Within the context of phenomenon being explored, this means, 'Do the evidentiary materials that are submitted as competency evidence actually reflect the reality of the competency of the assessee?'

There are several issues with credibility that have been identified;

Inconsistent standards applied by workplace assessors to practical experience assessment

Workplace assessors/mentors apply their professional judgment to ascertain whether the required standards have been achieved on the basis that they *"will know it when they see it."* (Workplace assessor #7)

A common observation by participants is that workplace supervisors may not have the specialised skill set that is required for assessment (Costley and Armsby 2007, p.29).

"Certain partners we would not let near training contracts – you're good at tax – stay away from people" (Workplace assessor #6)

It seems that a credibility issue associated with judgments of workplace assessors does exist. This is often attributed to the personality traits of the workplace assessor and their lack of training. However, subjectivity in applying judgment to make the assessment decision is not an issue. Participants express that there is an issue with the rigour with which practical experience is assessed. Assessors generally feel that PABs should take more of a role in ensuring the standards of assessment of practical experience. One academic assessor notes;

“There should be some quality network – we pay enough in fees, the professional bodies should pay for it - they keep going on about ethics, I think it’s part of an ethical society ... Like investors in people.” (Academic assessor #5)

PABs do not view their role as gatekeepers in this way and believe it is the responsibility of organisations to ensure standards and quality;

“We don’t really see ourselves as having a particularly important role on whether the work that they do on those activities as good, bad, excellent or whatever, we primarily look to see that they have provided evidence and we are happy that this work has actually happened – you know that this piece of work has been done and that this piece of work has been learned from.” (PAB representative #3)

Proficiency levels are mapped to ICAEW and ACCA competency frameworks, with very little guidance as to how to distinguish between the levels in assessment, beyond the different tasks. AAT, ICAS and ACCA levels are linked to taxonomies of educational objectives. CIMA’s Practical Experience Requirements (PER) have been updated in Feb 2016 following the launch of the CIMA Professional Qualification. In doing so, they have provided guidance on the competency proficiency levels from foundational to expert for assessors linked to levels of job responsibility to use for competency assessment. Whilst mapping of levels is done by PABs on competency frameworks, the actual forms used by workplace assessors for practical experience assessment have no guidance of levels or standards. Workplace assessors explain that they do not refer to proficiency levels within the

competency frameworks when assessing performance, instead using their professional judgment to determine whether jobs carried out by the aspiring professional accountant meet organisation set standards.

One workplace assessor notes;

“Standards vary – for some reason I do remember some of that when I was training – something came up and I was aware different people were applying different standards –It’s not easy –its useful to think about everyone applies standards differently – appraisal, PDR – there are always different things that cause problems.” (Workplace assessor #1)

The issue of varying standards stems from a lack of reference to thresholds of performance within the PABs evidentiary materials for practical experience assessment. Instead, standards applied to making judgments about performance based on evidentiary materials are based on the values, judgments, assertions, expertise of the assessor. The subjectivity of this is not an issue, the variation in standards that are applied to make the judgments is.

Academic assessors suggest that issues with standardising assessment judgements might be addressed through training. AAT and CIMA train workplace assessors. Other PAB workplace assessors receive no training.

Another trustworthy issue identified by participants associated with evidentiary materials is rooted in the dual role of workplace assessor and mentor/supervisor.

Dependability issues - Duality/conflict of interest

Evidentiary materials for practical experience require sign off by workplace assessor, who is also the manager or supervisor of the aspiring professional accountant. Some assessors expressed a conflict of interest arising from the duality of roles, when the workplace assessor also performs the role of

the practical experience supervisor. As such, the very person responsible for overseeing the creation of opportunities for professional socialisation of the aspiring professional accountant is the person who determines whether successful accomplishment of performance has been achieved or not. Opinion was divided on whether this posed an issue or not. Interestingly, there was a clear divide between academic assessors, who unanimously (n=8) believed that there should be a segregation of duties and workplace assessors, of whom the majority (n=6) believed that it should be the practical experience assessor who also acted as the competency assessor.

One academic assessor notes;

...“in principle, you would want a segregation of duties – impartially reviewing training progress and a different person from a career perspective – it could be you are doing terrific training and exams but be useless at the job and the other way round” (Academic assessor #4)

Impartiality is deemed important to mitigate against inherent bias. It is perceived by academic assessors (n=9) that impartiality enhances confirmability and credibility of assessment judgments. Contrastingly, the majority of workplace assessors (n=6) agree that the manager or supervisor is the best person to make a judgment regarding the competency of the aspiring professional accountant.

A workplace assessor justifies this by saying;

...Because you are sat with them day to day and seeing how they deal with things and react to different situations to assess peoples' performance. I work with these people and understand how they work under stress, how they work day in day out – I am not sure how it would work for someone from outside.” (Workplace assessor #3)

As such, there is some debate amongst participants regarding who should assess competency of aspiring professional accountants. Whilst the merits of the current system of using a workplace mentor/supervisor/assessor are acknowledged, it is the case that working relations between assesseees and assessors is deemed to influence the confirmability and credibility of assessment

judgments. A number of assesseees and workplace assessors (n=6) make reference the extent to which successful performance of an aspiring professional accountant mimics practices and decision making of supervisors/partners within the organisation. A small number of workplace assessors (n=3) suggest that these practices have made/make them feel uncomfortable e.g. focus on selling services to a client that are not needed.

It is therefore the case that some participants (n=13) believe that there are trustworthiness issues associated with judgments on which evidentiary materials are based.

The penultimate section reviews the appropriateness of competences/competencies captured in the evidentiary materials. It provides suggestions of alternative competencies and basis on which it is determined that successful accomplishment of performance has been achieved as suggested by participants and framed using literature.

5.1.4. Requisite capacities (competencies) required of practical experience records.

Technical competence

Documentary analysis of PAB evidentiary materials shows that there are three general strands to all competency frameworks used for practical experience assessment; technical competence, professional values and ethics. These are also the requisite competencies identified by participants as integral to professional competence. There is a general consensus that aspiring professional accountants need to be able to prepare a set of final accounts from trial balance, complete a simple tax computation and 'be competent in IT.'

There was some discussion by some workplace assessors (n=3) and assesseees (n=2) that the range of technical competencies an assessee is expected to gain practical experience of, is too wide. A common observation by participants is that there is time during CPD (rather than IPD) to specialise

technical competence, “to ensure your absolute competence and client confidence.” (IAESB representative #2)

PABs suggest that they address the issue of breadth by providing optional specialist competencies from which generally only a few are selected by the aspiring accountant. Notably, CIPFA suggests that “a reasonable number” of specialist competencies is required to ensure breadth of experience.

Records of work experience

As noted in Table 9, ICAS and ICAEW suggest artefacts/work products are submitted as evidence to support evidentiary materials, though this is not mandatory. AAT require work products to be submitted to support records of practical experience as a condition of their practical experience assessment. ACCA and CIMA do not require artefacts to be uploaded only for experience to be recorded. CIPFA operate a paper based portfolio, in which paper based artefacts are provided.

Academic assessors suggest that PAB evidentiary materials should not just be records of practical experience of one’s job role, but tools of learning and development. In essence, this means that evidentiary materials should extend beyond records of experience. All PABs require the aspiring professional accountant demonstrates learning and development through reflection in their evidentiary materials.

In addition, whilst workplace assessors and assessees believe competencies required of practical experience records are those that are required to be demonstrated in one’s job, academic assessors believe these competencies should be wider than the scope of one’s job and recognise the societal role of the professional. Additionally, that aspiring professional accountants have a ‘*conceptual understanding of accounting,*’ ‘*understanding of the global environment*’ and can ‘*ask the right questions.*’

All participants recognised the wide breadth of accounting as a discipline and the fact that the job role of an aspiring professional accountant, varies depending on the organisation that they are

working for. Despite this, all participants agreed that the dimensions of professional competence framed after the literature review (Chapter 2.2.7), correctly captured the broad competencies that should be required in evidentiary materials.

Professional values and ethics

One of the debates that evolved as interviews progressed was what makes a professional accountant, a professional rather than an occupational accountant. It is here that membership of a PAB and the importance of professional ethics was referred to.

Importantly, it is acknowledged by all participants (without exception) that ethics is integral to the competency of an aspiring professional accountant. However, it is the values of the organisation in which the aspiring professional accountant is trained that largely informs and shapes ethics and behaviours of the aspiring professional accountant. ICAS recognise this and the PAB representative explained that there is an emphasis within ICAS on moral courage as an important characteristic to be developed in their accountants.

Moral courage recognises that it is “not always easy to do the right thing.” In the ICAS 2015 report, “Ethics – The Power of One,” it notes that moral courage requires the aspiring professional accountant, “to resist the exploitation of professional opportunity for private benefit rather than the public interest” (p.4). However, moral courage is not a requirement of the current version of The Achievement Log.

Organisational values impact on personal values and ethics of professional accountants. Yet, PABs seemingly pass the responsibility of checking, monitoring and evaluating professional ethics at the “Does” level to organisations.

Additionally, there is under-representation of requirements associated with social capital in PAB evidentiary materials. In general, there is little emphasis on requirements to evidence competencies such as trust relations and moral reasoning, within the context of professional practice e.g.

stakeholder relationship management. However, there may be a shift towards this within PABs, with three (CIPFA, CIMA and ACCA) explaining at the time of interview that this is an area under review. Consequently, ACCA's new competency framework (effective February 2016) has a new competency, "professionalism and ethics' which covers these value based competencies.

Professional capital

Following on from interviews with assesseees and assessors, I revisited the literature to determine whether there was a theory or existing framework which I could use to conceptualise the competencies cited by participants. This approach is consistent with an abductive approach and it was during this iterative process, that I came across Hargreaves and Fullan (2012), who developed the concept of professional capital in education. They explain, "Capital relates to one's own or group worth, particularly concerning assets that can be leveraged to accomplish desired goals." (2012, p.1)

Although this framework is applied to education professionals working at secondary school level education, the principles of the framework indicate that they are transferable to accounting professionals within professional accounting.

The professional capital framework seeks to provide a structure around which to develop a new pedagogy in education, to create value by developing teachers into new professionals. Their model suggests that in doing so, the profession of teaching will create value for wider society. In reviewing the principles of the framework, it is proposed that there are many similarities with that of competency assessment in professional accounting. Hargreaves and Fullan (2012) claim that professional capital has led to better achievement of performance in teaching.

I have used Hargreaves and Fullan (2012) professional capital concept to frame the competencies cited by participants as required in competency of an aspiring professional accountant. Those

marked with an * are competencies that participants suggested could be included in practical experience assessment.

- **Human capital**

Competencies: knowledge*, out of context application*, skills*, emotional intelligence, professional intelligence* and aptitude

- **Societal capital**

Competencies: trust relations, collaboration*, collective responsibility, mutual assistance, professional networks, push*, pull*, health and well-being, team-working*

- **Decisional capital**

Competencies: judgment*, moral reasoning*, experience*, practice, negotiation, challenge & stretching reflection*

The following table compares competencies within PAB evidentiary materials of practical experience with those cited in interviews during this study using the professional capital framework;

Professional Accounting Body	Human Capital	Social Capital	Decisional Capital	Omissions based on proposed competencies
Association of Accounting Technicians (AAT)	PAB Exams Audit Cost accounting Credit control Financial accounting Management accounting, Payroll Tax	Personal Effectiveness (Communication, commitment to CPD, behaving ethically, managing time and workload and team working) Teaching (optional)	Not chartered – vocational No strategic level decision making	Health and well being Emotional intelligence Push/pull Negotiation Collaboration Team working Moral reasoning Negotiation
Association of Chartered Certified	PAB exams Corporate Reporting	Professionalism and ethics	Strategy and innovation	Health and well being

Accountants (ACCA)	Financial Management Sustainable management accounting Taxation Audit and Assurance	Stakeholder relationship management Ethics module (Effective Feb 2016)	Governance, risk and control Leadership and management Reflection	Emotional intelligence Push/Pull
Institute of Chartered Accountants England and Wales (ICAEW) UK	PAB exams Accounting Audit & Assurance Tax Financial Management assurance Insolvency Information Technology	Professional Development (7 ladders; Communication. Team working Decision making. Consideration Adding Value Problem solving Technical competence) –all managed by employer Ethics and professional scepticism (online training file)	Not strategic level decision making Reflection	Health and well being Emotional intelligence Push/pull Trust relations Collaboration Moral reasoning Negotiation
Institute of Chartered Accountants Scotland (ICAS) UK	PAB Exams Accounting Information Technology Accounting Audit – Internal and External Compliance Corporate Tax Personal Tax Corporate Finance Information Technology Credit Risk Management Treasury Insolvency and Business Recovery Forensic accounting	Teamwork and Leadership Personal Effectiveness Business Ethics assessment Communication and Influencing People Business Advisory	Decision support Reflection	Emotional intelligence Push/pull Trust relations Moral reasoning
Chartered Institute of Management Accountants (CIMA) UK	PAB exams Financial and management reporting Financial management financial and business analysis Performance management	Personal Inter-personal organisational Influence Negotiation and decision making	Motivating and inspiring Reflection	Health and well being Emotional intelligence Trust relations Moral reasoning

	Audit and assurance Risk management Taxation Insolvency Forensics	Communication Collaboration and partnering (Effective Feb 2016)		
Chartered Institute of Public Finance Accountants (CIPFA) UK	PAB Exams Financial and Performance Reporting Treasury	Ethics and Values Audit and Accountability Partnerships and Stakeholder relations	Change, risk and project management Procurement and contract management Credit Risk Management Leadership and Strategic Management Strategic and Operational Financial Management Governance	Health and well being Emotional intelligence Push/pull Trust relations Collaboration Moral reasoning Negotiation

Table 17. Competency assessment of each PAB using professional capital framework

Human capital

Human capital achievement is assessed primarily via PAB exams in specific technical areas. The requirements of which vary in scope across each PAB, but essentially are financial reporting, management accounting, tax, financial management and audit. It is clear that participants feel technical competence is assessed effectively by PABs in exams. In fact, some workplace assessors (n=4) suggest that technical competence is demonstrated by passing the PAB exams rather than in practical experience records. Assessee themselves, note that the extent to which they gain practical experience of the different technical competence areas required by their respective PABs, depends on the nature of their job.

Social capital

PABs such as ICAS require important non-technical skills such as ‘team-working’ and ‘communicating with others,’ is evidenced in materials relating to practical experience. However, the focus in

evidencing these skills is on client satisfaction. There is little requirement to demonstrate how the individual aspiring professional has created social capital through collaboration, networking, negotiation etc. Although, AAT (as do CIMA) explicitly require evidence of behaving ethically, making reference to 'open, honest and straightforward working relationships.'

Decisional capital

There are extensive decisional capital requirements in PAB evidentiary materials; CIPFA requires evidence of decision making relating to a wide range of management activities. ICAS, CIMA and ICAEW requires reflection on professional practice, with ICAS referring specifically to 'decision support'. (AAT is a lower level PAB and as such do not require management/leadership level decision making of their aspiring professional accountants)

IAESB representatives agree that an integrated and holistic approach to evaluating the performance of aspiring professional accountants is necessary and that the professional capital model is an appropriate framework to use;

"I like the notion of professional capital – as I said earlier that social need, is so often underestimated and probably one of the hardest to measure. You tend to get it with experience when you have had people you have had working for you for a while. I think that a combination of the elements that you ran through is quite important and we probably focus too much on the human capital." (IAESB Representative #2)

However, it is acknowledged that social capital is hard to evaluate and assess. There are obvious challenges and tensions in determining the context of successful accomplishment of performance; is it within the organisation, within society or both? Are the goals within both contexts mutually exclusive or complimentary?

These questions are explored in the following section which evaluates findings in the data relating to the judicious criteria within evidentiary materials to be used to determine successful accomplishment of performance of the aspiring professional accountant.

5.1.5 Judicious criteria

Professional judgement

One way of looking at judgement is as ‘an assessment between alternatives’ (Dowie 1993). Maule (2001) suggests that the process of judgement involves the integration of different aspects of information about a person, object or situation to arrive at an overall evaluation.

Evidentiary materials of practical experience are the information on which a third party assessor e.g. PAB assessor makes judgment as to whether the aspiring professional accountant has met the IPD requirements in order to gain membership to the PAB. As noted, professional judgment by PABs is applied is often based on versions of experience recorded by assessees and assessors. The data captured in evidentiary materials such as ICAEW’s TWE or MyAAT (which focus on functional analysis approach), does not always capture the ‘essence’ of the aspiring professional accountant; their character, their attitudes, their values.

Minimum performance threshold

Participants are very clear that although the assessment of competency is a process based on the application of professional judgment, the outcome of that judgment is less nuanced;

“Speaking about competency – You are competent or not competent – every AAT certificate says that in units – that’s right because you are talking a minimum standard” (Academic assessor, #4)

There is broad consensus that a minimum performance threshold should be achieved in order for an acceptable level of competency to have been achieved. A popular analogy used was that of passing one’s driving test;

“It has to be enough to get them qualified – What would be the equivalent? Like having the green plates on passing your driving test. You haven’t done a lot of driving but you have achieved a minimum standard.” (Accounting academic #6)

Participants suggest that judicious criteria should recognise a minimum performance threshold of achievement. CIMA share this view in their assessment at the meta-cognitive levels e.g. case studies receive no grade as there is no pass mark. Submissions are assessed as ‘competent’ or ‘not competent’. This is the same approach for practical work experience. AAT historically award ‘competent’ or ‘not competent’ on their case studies and work based assessments (they are reluctantly moving to a grading system by 2017). ICAEW award four levels of competency on their Case Study assessment (also referred to as ‘Competence based assessment’). ICAS award a grade of “competent” or “not competent” on their final Ethics assignment based on a case study.

Successful accomplishment – “Organisation professionalism”

Analysis of the interview data has shown a significant theme that has emerged, is the influence and dominance of organisations on the aspects of performance assessed. That which is adjudged to constitute successful accomplishment of performance is determined by organisations, rather than PABs. Worryingly, most participants expressed (n=21) a sense of detachment from their PAB and suggest that their professional identity is formed by their work/job role. As such, participants explain their self-reflexive understanding of their professional practice is measured in the terms of ‘successful accomplishment’ by the organisation not the PAB. Tellingly, many (n=5) of the workplace assessors explained, that they did not know what an accountant from their respective PAB is expected to be able to do. This is summed up by one who says ‘– *“I am reflecting now and I am not sure that I know and could nail down what I would expect ACMA to be able to do”* (Workplace assessor #6)

Performance based on client evaluation

Workplace assessors (n=5) and assessees (n=4) were clear that assessment of practical experience for the purpose of competency assessment is based on the needs of the client. This is affirmed by ICAS and ICAEW who are clear that successful accomplishment of performance is based on qualification and performance on client engagement.

Successful accomplishment as determined by the client has obvious problems, with one workplace assessor saying;

“Without the client you are nothing – but the client is not always right- I think it is appalling when accountants will do what the client wants – you need to deal with those sort of relations – client retention – client view, I can understand- how do we deal with it, how do we sort it? The client is the person who assesses the competency of the tax/ accounting professional...if the client does not perceive you are doing the job – they will go, but again – There is more to them perceiving you’re doing your job - you could be brilliantly competent.... purely using client perspective to assess professional competency is flawed - A client will always look at it from their perspective – should be a broader spectrum - who – I have no idea! (Workplace assessor #5)

This idea that judicious criteria of competency should extend beyond the client is echoed by academic assessors, one of whom says;

“I don’t suggest that they walk out thinking they know everything but – who defines the competence – is it the client? No – is it government? – its society – a societal contract – that’s the whole idea of professions.” (Academic assessor #5)

The conceptualisation of competence/competency is complex and influenced largely by context (which is not recognised beyond the organisation in evidentiary materials).

The following section makes reference to the wider social context in which competency is developed and is proposed by some participants (n=11) to be assessed.

Successful accomplishment – “serving the public interest”

Assessors (n=12) are clear that what makes a professional accountant, a professional, is their responsibility to act in/serve the public interest. This of course, is not a new idea.

Whilst PABs raise awareness and understanding of ethics through assessment, it is clear from the analysis of interview data that PABs believe it is the responsibility of organisations to assess competency of aspiring professional accountants. Conversely, academic assessors and a number of workplace assessors (n=6) point to the individual responsibility of the aspiring professional accountant to employ moral standards in their behaviour and decision making. It is noted that “The Code” provides a useful benchmark but does not provide the basis for self-regulation of ethical behaviour.

CIMA’s revised competency framework (Feb 2016) depicts integrity, ethics and professionalism as underpinning all skills. AAT suggests ethics is considered in evidencing the competency ‘behaving ethically’ but not as an integral, synthesised aspect to overall decision making. ACCA’s revised competency framework (Feb 2016) suggests that ethics is a behavioural competency linked with other competencies. However, aspiring professional accountants are not required to link them in their practical experience records. Instead, the framework shows linkage between the competencies through assessment at ‘knows’/‘knows how’ levels through the ethics simulation module and foundations in professionalism module. ICAEW and ICAS suggest that ethical behaviour is observed and assessed by organisations via 6-month performance review. It is only CIPFA who explicitly require demonstration of the consideration of moral reasoning/conflict in professional judgment in decision making within its evidentiary materials.

It is important to note, the complexity of assessing ethics is such that assessing it in action, in a way that is beyond the application of rules and policies is very challenging. IAESB representatives are clear that assessment of ethics in this way can really only raise awareness of its importance. They

note that there is a need to consider the wider impact and moral conflicts of decision making beyond that of the client in assessment. However, assessment is only a partial 'solution' to this complex but important area of professional practice.

Documentary analysis of PAB evidentiary materials shows that moral agency (rather than moral reasoning/conflict) is a feature of practical experience recording. AAT, ICAS, ICAEW, ACCA evidentiary materials refer to the need for client confidentiality and verifying the integrity of information. CIPFA evidentiary materials refer to the need to consider values such as 'professional scepticism' and 'professional judgement', and attitudes like 'commitment to the public interest' to activities. CIMA have revised their Practical Experience Requirements (PER) to reflect that ethics, integrity and professionalism underpin all skills in their competency framework (effective Feb.2016).

Despite reference to moral agency in evidentiary materials, workplace assessors and assessee focus the evaluation of the performance of the aspiring professional accountant on the client and self-interest need of the organisation. Academic assessors suggest that moral reasoning must extend beyond *ergon* ethics, which Wilson (2014) explains is linked to role function.

This aspect of assessment is complex but is ultimately about moral orientation – virtues, values, moral judgment. Value configuration of assessment should go beyond concepts such as those proposed by Milton Friedman and "staying within the rules of the game." Moral reasoning it is not just about not doing what is wrong, equal regard is needed for doing what is right. It is important that moral reasoning in the context of competency assessment, extends beyond the moral agency of the client (although this is important). It is proposed that assessment should foster ethical behaviour that is utilitarian in nature (because '*that's what a profession is about*'). Judicious criteria relating to successful accomplishment of performance in practical experience assessment needs to recognise diversity, plurality and context.

Successful accomplishment – social context

This study recognises the ever-changing context that aspiring professional accountants in the UK are working in. Changes in contexts cited by participants include; the proliferation of professional accounting bodies, the marketization of higher education, the emergence of new (non-traditional) business models and globalisation of business. These changes have resulted in changes to the jurisdiction of work which has led to an eclectic and diverse range of experiences within professional accounting. The variety and scope of work experiences and jurisdictions of work of aspiring professional accountants is not standardised, therefore the opportunities for professional socialisation are not the same for each aspiring professional accountant. It is important that judicious criteria of successful accomplishment in competency assessment recognises this non-standardisation of practical experience due to different labour structures and organisation of specialised tasks. (These changing contexts also impact on technology-mediation which is explored in Chapter 6)

The context in which successful accomplishment of performance of aspiring professional accountants' changes over time, varies across different PABs and is transient.

“My Dad was ACMA from decades ago – what he did for his skillset is very different to what I need to do to qualify today – He’s ACMA qualified from 1960’s – so potentially I wouldn’t be able to make the same assumptions.” (Workplace assessor #6)

The challenge of assessment is how to ensure that despite ever-changing and dynamic contexts, aspiring professional accountants are all assessed on the same terms; with the application of the same minimum threshold of performance. Even if those performances are in different domains and applied different contexts.

Transient nature of competency

Judicious criteria of competency need to recognise the permeable, transient, contextual nature of competency. PAB evidentiary requirements should recognise that assessment of performance, is at

specific point in time. IPD is a continuum of development that extends into CPD. PAB evidentiary materials should recognise the developmental aspect to performance and that the scope of professional accounting is just so wide, that one cannot ever be competent at everything. An assessor notes;

“It’s like the perfect round of golf – it doesn’t exist - you can be competent at certain things – it’s such a massive subject – how can you be competent at all of it? In a modern society – they should all be linked – values, ethics and judgments, they all come from working with good people.” (Academic assessor #7).

Participants express that competency is undoubtedly developed through professional socialisation in different contexts, at different points in time;

“I think just working with people who have developed their competencies and skills – Again they have worked with somebody else who has those skills – there are a lot of things you pick up just from observing people - A manager or colleague.” (Workplace assessor #2)

Although the social context in which competency is performed changes over time and across different domains, fundamental principles of what it is to be professional, of professional values, professional behaviours do not change. Participants (n=4) assert therefore, that standards and levels of performance i.e. judicious criteria should be transferable across spatial and time bound contexts. It is the detail of the requisite capacities e.g. moral reasoning that may need to be applied in different ways, across different contexts. Diversity and difference are therefore to be respected, celebrated and above all accommodated through value configuration (Wilson, 2014.p.488).

Judicious criteria according to participants should be sufficiently flexible and broad to incorporate the diversity of experiences an aspiring professional accountant could have, rather than stipulating an unattainable range of technical competences expected to be applied to a competent level in practice.

Verification of performance

PAB lead

Participants suggest that PABs need to take more of a lead on competency assessment in a work based context as it is incumbent on them to do so. In response, PABs such as ICAEW and ICAS suggest a lot of proactive work is done with organisations such as ATEs up front to mitigate any risk to the credibility and dependability of assessment judgments and the evidentiary materials supporting those judgments. CIPFA and ACCA do concede that little work is done with organisations who do not offer training contracts, but claim that there is a low level of risk of evidentiary materials not being credible and valid. It is for this reason that they justify the use of sampling evidentiary materials for administrative completeness. CIMA undergo rigorous moderation of each submission of evidentiary materials using two Fellows to assess validity and completeness in accordance with their competency framework. AAT explicitly state that assessment of technical competence is “verified by your employer.” AAT suggest that they verify personal effectiveness on the basis of examples of scenarios provided in evidentiary materials by the aspiring professional accountant.

The question of whether evidentiary materials are fit for purpose is a complex one.

The objective of evidentiary materials is to provide “corroboration” of the competency claims of the aspiring professional accountant. Issues associated with the evidentiary materials on which assessment judgments are made by third parties, relate to trustworthiness and dependability of the evidentiary materials in terms of providing “verifiable evidence” of competency. However, deeper, underlying issues relating to what is “measured” within the evidentiary materials and the context in which performance is assessed to determine its successful accomplishment are prevalent themes within the interview data analysed.

The following section explores the issues associated with the judgments of multiple actors to assess competency, thus answering research question 2.

5.2 What are the issues with multiple actors making competency assessment judgments?

The main issue identified with multiple actors making competency judgements, is not with the subjectivity of those judgments. It is that different actors employ different judicious criteria and place emphasis on different requisite capacities in determining successful accomplishment of performance.

The following section explores the underlying issues identified in analysing the interview data relating to this main issue. It makes reference to analysis of data from assessors who make competency assessment judgments based on evidentiary materials.

There are two assessor groups – third party PABs and IAESB representatives and IPD assessors (workplace and academic assessors). Analysis of the issues with multiple assessors making competency assessment judgments via the lens of these groups is provided below.

5.2.1 Views of third party assessors

Third party assessors expressed issues relating to their role as assessors involved in competency assessment. The current operationalisation of competency assessment, means that third party assessors rely on the assessment made by organisations regarding the successful accomplishment of the aspiring professional accountant, to form their own judgments about performance.

Hence, issues cited by PAB & IAESB representatives of having multiple actors involved in competency are listed below;

- 1) A lack of standardisation of practical experience assessment (IAESB)
- 2) Plurality of judgments leading to variable standards (IAESB)
- 3) Duplication of assessment review with no added value (PABs)
- 4) Additional resources – cost, training that are not cost beneficial (PABs)

5.2.1.1 Non standardisation of practical assessment performance

There is a non-standardisation of assessment of practical experience of aspiring professional accountants. The proliferation of PABs is also referred to by many participants as a contributing factor to issues with standards of performance within the profession. PAB representatives interviewed were unanimous in their belief that their role in assessing practical experience, is to provide guidance on performance objectives that make aspiring professional accountants “*work ready*” but that it is the employer and not the PAB who should determine whether the required standard of performance has been achieved.

The argument proposed by PABs for not adopting an approach to review and check all evidentiary materials submitted to them (with the exception of CIMA who adopt this practice) to check for consistency, is the extensive quality assurance work undertaken with ATEs. Empirical evidence suggests that even where this is the case, what is deemed successful accomplishment of performance by different organisations differs.

IAESB representatives are vociferous (as were a number of academic assessors) in their belief that it is the responsibility of PABs to ensure that those entering the accountancy profession have met the minimum threshold of performance required of a newly qualified accountant. The view is that by PABs taking control of practical experience assessment practice, they take responsibility for ensuring that what the aspiring professional accountant learns, how their performance is reviewed and that the feedback that they receive is appropriate in order to ensure that the assessment is valid and reliable.

5.2.2.2 Plurality (with self-regulation) leading to variable standards

A major issue associated with multiple assessors making judgements regarding the competency of aspiring professional accountants is the plurality of standards and competences assessed. Given

that it is PABs who are responsible for setting and enforcing standards of performance expected of their members, it seems reasonable that they take more of an active lead in all aspects of assessment, including practical experience assessment. AAT suggest that the reason that other PABs do not do this, is that the other PABs are not regulated by OFQUAL. AAT have clear ownership of practical experience assessment and consequently have a robust practical experience assessment system in which independent assessors (internal verifiers (IVs) and external verifiers (EV's) are trained, standards of assessment are regularly reviewed and what is required in terms of practical experience evidence is clear e.g. witness testimonies and feedback is provided to the accounting technician by the IVs and EVs, via AAT controlled and owned portal. AAT explain that they have full control of the assessment process, because they are accountable to OFQUAL. Additionally, ICAS explain that the Financial Reporting Council (FRC) perform a periodic audit of Achievement Logs and that they have periodic internal checks to ensure that review processes are robust.

It is important to note that IAESB representatives are comfortable with employers making judgments about professional competency providing the assessment system ensures that those admitted to PAB membership achieve the minimum threshold required of any aspiring professional accountant. It is therefore necessary for PABs to have safeguards in place to ensure that consistent standards of performance are applied in their assessments.

CIMA suggests that they do have such safeguards in place because they operate a stringent moderation of assessment of practical experience by organisations. They adopt an approach that uses an academic assessor and industry specialist to reach consensus as to whether the required proficiency has been achieved, based on evidentiary materials in which assertions of competency have been made by assessees and workplace mentor.

A plurality of judgments is accepted by IAESB representatives, as long as the PAB takes control of the (profession) competency assessment environment to ensure that a 'minimum threshold of performance' has been met.

5.2.2.3 Duplication of assessment review

PABs were unanimous in their view that it is organisations that must make judgments regarding the performance during practical experience assessment of aspiring professional accountants. CIMA and AAT, operate an assessment system that involves members/Fellows evaluating the practical experience of every aspiring professional accountant based on evidentiary materials submitted by them via the PAB portals. ICAS use Lecturers employed by them, who form a review team to check Achievement Logs. They sample check the first year and then review all second and third year submissions. ICAEW, CIPFA and ACCA operate a sample basis, in which evidentiary records are checked for accuracy and completeness, rather than to determine whether the 'minimum performance threshold' has been met. These PABs suggest that the judgments of assessors within organisations, is sufficient to assess successful accomplishment of performance and so 'duplication' of assessing performance is not required. PAB representatives often cited that the level of risk that assessment decisions might not be correct is so low, it did not warrant the need for moderation or review.

5.2.2.4 Additional cost

Some PAB representatives (n=3) suggest that it is not cost beneficial to check all evidentiary materials as an integral part of competency assessment. These PABs suggest that it is resource intensive and costly. PABs trust organisations to ensure that aspiring professional accountants achieve the standards of performance required in practical experience assessment. Therefore, a significant issue of involving multiple assessors in competency assessment is cost and resource.

5.3 Views of workplace assessors and academic assessors

All of the assessors taking part in the study have been actors who have made competency assessment judgements for the purpose of practical experience recording. However, within the

assessor group are assessors who are currently involved in IPD through professional accounting education (n=8) and those involved in IPD as workplace assessors (n=8).

Analysis of the interview data, shows that issues associated with multiple actors making competency assessment judgements are anchored in the beliefs and perceptions held by assessors regarding competency assessment. Assessors within this group did not reflect on process (as the third party assessors did). Instead, assessors in this group focused on issues relating to conceptualisation of competency and its assessment.

5.3.1. Orientation to assessment

During the literature review I came across Samuelowicz and Bain's (2002) Orientation to assessment framework. Their research with academics across five different academic disciplines showed that there are six different belief constructs linked to orientation of assessment practice. These belief constructs are grounded along a continuum of assessment anchored in beliefs whether assessment is about knowledge re-production or knowledge construction and/or transformation (Samuelowicz and Bain, 2002).

Although the context in which the framework they developed is academic, the constructs that underpin it are transferable in a professional practice based setting. The original constructs include; content knowledge, process of inquiry, attitude towards learning measurement, performance and informal assessment constructs. These have been modified to reflect a competency assessment environment. The modified constructs were used to analyse the opinions, views, attitudes of assessors in order to explore the positioning of different assessors in relation to competency assessment.

Assessor Role	Nature of competency environment	Degree of integration of competency tasks	Degree of transformation of competency	Differences between “good/bad” competency	Role of assessment of competency	Use of feedback
Workplace Mentor	Jurisdiction is in the workplace and professional accounting education assessment environment	Competency should draw on the requirements of the aspiring professional accountants’ role within an organisation	Competency should be based on work tasks defined by role/training contract and seek to improve performance in a role	Competency should be based on an ability to do one’s job and fulfil organisation requirements to organisation standards	Assessment and application of knowledge (exams). Occupational training leads to competency	Improve performance in the workplace at a critical point in time
Academic Assessor	Jurisdiction is based on social and environmental context	Information should be drawn beyond an employing organisation to consider wider society needs e.g. agency role	Competency should be based on techniques, methods, explanations, critical evaluation and seek to improve conceptualisation of accounting	Creativity, imagination, moral reasoning should be applied and measured based on minimum performance threshold set by PAB	Higher education assessment should encourage creativity, imagination, risk taking Assessment should develop philosophical thinkers and social advocates/agents	Challenge understanding and ideas – encourage continuous reflection to develop critical thinking

Table 18 Orientation to assessment of workplace and academic assessors

5.3.1.1 Nature of assessment environment (Assessment context)

Academic assessors were very clear that professional assessment environments should foster learning, critical thinking and conceptual understanding of accounting. They recognise the significance of technical competence as part of the competency of an aspiring professional accountant and shared a belief with workplace assessors, that training providers are best positioned to offer professional education provision of technical competence that is then applied to a practice based setting. Both groups of assessors agreed that a combined approach to assessment is the best approach to determine that the minimum performance threshold of performance had been achieved by the end of IPD.

Whilst workplace assessors view competency as being successful accomplishment of performance directly linked to a job role, academic assessors argue that competency is a much broader construct and therefore, requires a broader environment. For example, one academic assessor spoke of the need for aspiring professional accountants to be aware of global environmental issues such as climate change and how this might impact on accounting. Academic assessors spoke of the need to recognise one's professional role within the context of civil society and social purpose. They expressed the need for aspiring professional accountants to be able to morally challenge professional practice, ask the right questions and contribute to debates regarding professional practice within the context of a real world, wider social environment.

5.3.1.2 Degree of integration competency assessment tasks

The debate of whether aspiring professional accountants are advocates of the paying client or agents of society was raised by academic assessors, when asked to consider how competency is demonstrated in an accounting professional. It is academic assessors who raised the need for competency assessment to recognise the principle of 'serving the public interest' as an integral and explicit part of performance requirements. This is contrasted against views expressed by some

workplace assessors/mentors (n=5) that is grounded in economic self-interest context and a firm belief that competency is measured by performance in a work role, on the basis of the requirements of that role. As one workplace assessor notes, *“how can you assess whether someone is competent other than by reviewing their performance in work? Assess their social role...it’s just not possible.”* (Workplace assessor #4)

5.3.1.3 Degree of transformation of competency

Workplace assessors felt that the role of competency assessment is really to improve performance in a job role. All workplace assessors felt that there should be some form of review or appraisal of performance in which competency is assessed. There were some workplace assessors, who conceded that they had not had appraisals/job reviews in past and/or in current working roles and that this was not a good thing to happen in modern day business.

Academic assessors shared the same view with workplace assessors regarding periodic performance review and appraisal. However, academic assessors believe that competency assessment should be transformative, in that aspiring professional accountants should be challenged on their professional judgments and moral reasoning actions within their professional practice. They should be encouraged to think about new ways of doing things (push and pull reflection) and encouraged to gain better conceptual understanding of accounting as part of the performance review. Both groups of assessors cited the importance of feedback within the assessment process in order to improve future performance.

5.3.1.4 Differences between “good/bad” competency

There is a stark difference here between academic assessors and workplace assessors/mentors as to what constitutes good or bad competency.

Academic assessors believe strongly, in the need to encourage reflection, imagination, creativity and moral reasoning in an aspiring professional accountant. Academic assessors were quite vociferous of the need for an aspiring professional accountant to develop (although not necessarily be assessed on) social capital. Accounting assessors suggest that good assessment of competency encourages aspiring professional accountants to think about ways in which to tackle complex social problems and not rely on traditional ways of doing things.

Workplace assessors are of the view that good competency, is an ability to do one's job effectively. They believe that assessment of competency needs to be based on what your employing organisation expects of you in your role. Workplace assessors were quite sceptical of the need to assess social or decisional capital, arguing that the aspiring professional accountant would lose their job if they did not meet the competency requirements of the organisation.

5.2.2.5 Role of the assessment of competency

Opinion was divided on the role of assessment. Both sets of assessors quite rightly point out that individuals can be very successful as occupational (rather than professional) accountants. As such, some assessors (n=4) questioned whether assessment of practical experience is really necessary. However, participants agreed that being a professionally qualified accountant, who has been deemed to achieve the competency performance threshold is advantageous. For the aspiring professional accountant, it opens up work opportunities to do specialised tasks and be involved in interesting work. On the other hand, it is important to assess the competency of aspiring professional accountants in order to provide assurance to the wider public that the required standard of a professional accountant has been met.

5.2.2.6 Different requisite capacities required by different assessors– IPD assessment

It is clear that different requisite capacities are used in practical experience assessment. Participants working at professional services firms e.g. Big Four spoke of the need to work efficiently. Time is a

requisite capacity of performance as if time targets are not met an aspiring professional accountant could be released from their training contract. This was indeed the case for one of the participants. Whilst the majority of workplace assessors suggested that competency assessment should be solely focused on the functional/job requirements of a qualified accountant, academic assessors suggested a more rounded and holistic range of requisite capacities.

5.3 Summary

Issues identified with evidentiary materials for practical experience assessment are concerned with validity (i.e. materials not measuring the 'right' things), dependability (e.g. standards of performance), and trustworthiness of judgements within the evidence submitted (e.g. credibility of competency claims made).

It is clear that different assessors have different beliefs regarding competency assessment. These differences give rise to non-standardisation of judicious criteria on which competency assessment judgments are made. Requisite capacities are determined by PABs, but it is assessors within organisations, who, exercise their professional judgments (in a non-standardised way) to determine whether competency has been achieved.

These issues highlight the need for evidence to be verifiable. It is verifiable evidence that can provide justification for the subjective judgment reached by assessors. Analysis of the interview data suggests that verifiable evidence is made up of sensory, mental and subjective propositions that can be traced back to a credible source and provides justification for the competency assessment judgment made.

Participants suggest that ideally, verifiable evidence would use different sources of evidentiary materials to uphold assertions of competency made by the aspiring professional accountant and workplace assessor. Evidence from multiple perspectives of the successful accomplishment of

performance is an important part of triangulation of evidence, which enhances the 'dependability' and 'confirmability' (Guba and Lincoln, 1989) of the evidence on which assessment decisions are made.

Significantly, participants did not hold the view that judgments of practical experience need to be objective and are very accepting of the subjectivity of professional judgment. Schuwirth et al (2002) explain that there is a common misperception that subjective, judgemental methods of assessment are unreliable, and that 'objective', 'scientific' methods are reliable. Van der Vleuten et al (1991) showed that scores from subjective assessment methods can be at least as reliable as those derived from 'objectified' methods. This research study suggests that subjective judgements should not be rejected simply because they are subjective. However, a consequence of using subjective judgments for assessment is that subjective judgements need to be supported by justification (Yorke, 2005).

The section exploring issues associated with different assessors of competency demonstrates that different assessors place different emphasis on different aspects of performance due to their orientation to assessment. PABs and IAESB representative's focus on issues with multiple actors' judgments is primarily on process. Academic and workplace assessors' views are grounded in their orientation to assessment beliefs and is focused on the basis on which judgements are made i.e. judicious criteria. In fact, some academic assessors (n=4) call for more social actors to be involved in competency assessment as a means of enhancing the confirmability of competency assessment decisions.

It is imperative that competency judgments relating to practical experience performance is based on verifiable evidence. Subjective opinion and judgments made by multiple actors is an integral part of verifiable evidence. However, there are credibility, dependability and confirmability issues with evidentiary materials, grounded in the operationalisation of a system between PABs and organisations that is built on trust.

There is a perception by assessors that PABs need to take 'more control' of the assessment process, whilst some PABs (n=3) argue that it leads to duplication and additional cost and resources. IAESB representatives are concerned that the issues associated with multiple assessors leads to non-standardisation of assessing practical experience and variable standards of performance used to make competency judgments.

This concludes Chapter 5 and the analysis of data relating to RQ1 and RQ2.

Chapter 6 explores the technology mediation of competency assessment environment. In doing so it seeks to address RQ3 and RQ4.

CHAPTER SIX – (RQs 3 & 4)

6.1 The current and potential role of technology in mediating the construction of evidentiary materials for practical experience assessment

This chapter aims to address RQ3 & RQ4.

In contrast with chapter 5, contextual data analysed from interviews is informed by theory and constructs, thus adopting a deductive approach, although it maintains to be a qualitative in nature. The constructs and theory informing the interview questions include mediation of technology principles based on technology presence (Kiran, 2012), technology acceptance model (Ventakatesh et al 2002), affordances theory (Gibson, 1986) and structuration model of technology (Orlikowski, 1992).

Analysis of this contextual data draws out meanings and interpretations of the role of technologies in mediating the practical experience assessment process. In doing so, issues associated with using technologies to construct evidentiary materials used to create verifiable evidence are identified and evaluated. These issues analysed in further detail in the concluding chapter eight, following interviews with key assessment decision makers.

The following section is divided into four sub-sections (Chapter 6.1, 6.2, 6.3 and 6.4).

Section one (6.1) makes reference to the current use of technology in professional competency assessment

Section two (6.2) explores the current mediating role of technology within the professional competency assessment environment

Section three (6.3) makes reference to issues associated with using technology for the construction of verifiable evidence

Section four (6.4) explores the future mediating role of technology within the professional competency assessment environment

6.1.2 Use of technology within competency assessment environment

“If a lot of your job is about using technology then you also need to engage with it in assessment.”

(IAESB representative #2)

Technologies are defined by participants interviewed as telecommunication systems and software applications, as such it is these terms to which the term technology in this chapter relates.

Telecommunication systems referred to by participants include:

Skype, computers, mobile phones, e-mail, telephones, Wiggio, Google Drive, CABLE (CA Blended learning environment), web/e-portal, online simulation, cloud computing, webinar, Periscope, adaptive technologies, podcasts, online games & quizzes

Software applications referred to:

ORA (audit software), MS Excel, MS Word, Oracle, SAP, SAGE, Agresso, QuickView, IRIS, voice recognition software, WebEx.

These technologies are used to perform the following actions by assessees and assessors in IPD competency assessment;

Creation of artefacts

- 1) Computer based assessment (CBA) - exams/projects
- 2) Computer based testing (CBT)
- 3) Access, processing and storing of big data
- 4) Analysis of big data for reporting of performance
- 5) Automation of accounts preparation tasks

- 6) Completion and filing of working papers for accounts preparation
- 7) Report writing and dissemination
- 8) Accessing audit software to complete audit tasks

Recording of artefacts

- 1) Recording job/performance reviews and professional conversations
- 2) Populate performance development records
- 3) Record development action points and reflections
- 4) Complete PAB practical experience records on e-platforms

Storing of artefacts

- 1) Repository of working papers
- 2) Repository of exam questions/tests/case studies

Retrieving of artefacts/reflections – uploading/downloading

- 1) To update working papers
- 2) Access training manuals/materials
- 3) Submit job/performance reviews
- 4) Submit personal development and action plan
- 5) Submit job completion reports

Validation of performance – Use of artificial intelligence to score performance

- 1) Recruitment and selection decision making
- 2) Psychometric testing
- 3) Personality profiling
- 4) Skills assessment feedback/audit

These activities are associated with the construction of evidentiary materials submitted to PABs by assesseses and assessors.

PABs use technologies to mediate competency assessment in the following ways;

Professional Accounting Body (PAB)	Current use of Technology for Technical competence assessment	Current technology mediation of practical experience recording
Association of Accounting Technicians (AAT)	On demand computer based tests (CBT) and computer based projects and exams (CBA) – all levels Case study assessment delivery (e-portal) (January 2010)	Evidence repository Synoptic and diagnostic assessment Simulation
Association of Chartered Certified Accountants (ACCA)	On demand computer based exams (CBE) – Foundation level exams (September 2016)	Assessment delivery e-(portal) e.g. interactive case study on ethics Evidence repository
Institute of Chartered Accountants England and Wales (ICAEW) UK	On demand computer based objective tests (CBT) Phased Professional level exams (Tax compliance and audit) – (March 2017)	Assessment delivery (web based) e.g. structured training in ethics (STE) Evidence repository
Institute of Chartered Accountants Scotland (ICAS) UK	Computer based testing (CBT) for some exams at Test of Competence level (Level 1) No computer based assessment at Test of Professional skills level Computer based assessment at Test of Expertise (Level 3) (continued to be rolled out for CBT – n.d specified)	Assessment repository (e-platform) Assessment delivery & Upload (Word & Excel)
Chartered Institute of Management Accountants (CIMA) UK	On demand computer based exams (CBE) – Certificate level exams Professional Qualification (CBA) Computer based assessment (Four points of the year) – Case Studies and 90-minute objective testing (January 2015)	Assessment repository (e-portal) Assessment of eligibility to submit PER for verification on the basis of competency requirements Synoptic and Diagnostic assessment
Chartered Institute of Public Finance Accountants (CIPFA)	Computer based assessment (CBA) – All exams	Paper based portfolio

UK	(June 2016)	
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Table 19: Current mediation of technology for competency assessment by PABs

6.2 Mediating role of technologies in IPD competency assessment

Mediation theory supposes that it is the interaction between participants, technology and the action performed within competency assessment being performed that needs to be analysed, in determining the mediating role of the technology.

Technology has various mediating roles within the assessment environment that can adopt a range of hermeneutic (where experience of technology has to be interpreted e.g. use of software to automate work products), embodiment (e.g. looking through the technology rather than at it e.g. simulation) and alterity (e.g. disintermediation) roles within competency assessment process. However, it is noted that it can also be a disabling tool and specifically in the construction of verifiable competency evidence.

Significant themes relating to the mediating role of technology within the competency assessment process that emerged from the interviews with participants refer to;

- 1) Power relations
- 2) Impersonal mediation
- 3) Emotional and sensory response
- 4) Deskilling of the aspiring professional accountant in using technology
- 5) Lack of emotional intelligence of technology
- 6) Capabilities and affordances of technology

Each one of these themes is explained through analysing the interview data, with focus where relevant on issues associated with technologies to construct verifiable evidence

6.2.1 Power relations between user and technology

Analysis of the data collected from participants, suggests that during interactions between the user, technology and resultant mediated action, clear power relations exists. Don Ihde refers to this as post-modern perspective in which mediation can be seen as an event in which competing perspectives are disclosed simultaneously. Peter Paul Verbeek (2007) suggests that during this event the human perceiver is not a neutral observer but as an active editor of reality.

In some cases, technology is interacted with or considered to be interacted with in an action, but is not selected to mediate an action. Thus, the selection or non-selection of technologies i.e. appropriation is co-constituted between the user and the technology. This means that it is sometimes the case that the locum of power sits with the technology rather than the user.

If technologies cannot be used to perform action in the way intended, an emotive and sensory response is experienced by the user/potential user which often leads to non-use of the technology. This can be a result of power relations between the user and technologies, in which the user feels disenfranchised or demotivated by not being able to use the technology in the way intended. It is in this instance that technology becomes a disabling tool rather than an enabling tool.

One of the workplace assessors (who admitted his inability to use technology), was quite defensive when asked about the usefulness of technology. He justified his non-use of technology, (whilst acknowledging its usefulness), as being something not required of his role, rather than an admission that he felt disempowered (as he had earlier admitted in the interview), as he could not use the technology in the way intended. Instead, he insists the locum of power is with him and that it is his choice to select the technologies that he chooses to use;

“I use Agresso and Excel and Word obviously - that is it. If I have anything technical – I ask someone else in the office to do it for me – I will have a go...I would hazard a guess that I am the worst in the whole of Financial Services” (Workplace Assessor #3)

He goes on when asked whether he is resistant to using technology and if so, whether this means he does not see technology as useful;

“Technology is useful - I am not resistant – I just don’t think it’s my job to do the number crunching – I do the analysis, write the reports and do interpretations – it’s a waste of my time to churn out numbers – I expect people I recruit to be good with computers” (Workplace Assessor #3)

This evoked a response that the non-use of the technology is his choice as he does not see it relevant to his role. In fact, he later explains that when technologies are needed in his role, he delegates the work to those who can use the technology in the way intended. Interestingly, he is clear that he expects anyone he recruits e.g. aspiring professional accountants to be *“good with technology.”*

It is a widely held belief by participants that whilst younger users of technology seemingly are at ease with using technology in social contexts, their use of technology for work is a skill that needs to be learned and is an integral part of their training. One assessor notes his exasperation that a ‘young lady’ who came to work for him could not use spreadsheets properly;

“I saw young lady who came to work for us, using a simple formula, but because some didn’t add up she was on individual rows changing formulae! If she just copied it across! but then you might have put something in below that is affecting the balance so it’s trying to deal with this sort of practical thing that people need to know. You expect that they would learn this and that you don’t have to go through the spreadsheet with a fine toothcomb” (Workplace assessor #4)

Two PAB representatives (ACCA and CIMA) interviewed suggested that IT is not explicitly referred to as a necessary competence in their competency frameworks as it is *“a given.”* It is telling that these PABs currently use technology innovatively to assess competency e.g. using logarithms to assess CBA and simulation. This is in contrast with ICAEW and ICAS, who use technology in a more restrictive way and both have ‘Information Technology’ as a competence to be achieved by assesseees.

However, ICAS do require aspiring professional accountants to use Word and Excel for their final TPE (Level 3) case study assessment. This is to “*correspond with a live working environment*” (PAB representative #4).

A noticeable feature of the experiences in using new technologies relayed by assessees was their complete acceptance of technologies to mediate competency assessment activities by assessees (compared with that of some assessors). One assessee notes;

“We have to use technologies, it’s all electronic – everything is saved on shared drives & shared documents. The older people are struggling, they learned to use technologies on the job – One of them was talking about the big ledgers – they have to learn everything and their way is better, obviously!” (Assessee #4)

A point of note is that all assessees are completely accepting of new technologies mediating competency assessment, were born post 1982, the so called ‘millennial’ (Strauss and Howe, 1991). The difference in learning styles adopted to performance tasks within the competency assessment environment between different people of different ages, is referred to by participants and plays a part in how using technology is perceived as an integral aspect of competency. One assessor notes;

“Different people, from different age groups have a different way of learning.... For newer guys coming in, there is a huge expectation that firms can provide that (technology to support learning) and it is interesting because our management structure is based on people who learned 30 years ago.” (Workplace assessor #8)

The same workplace assessor explains that the firm’s partners who had positional power in the action of competency assessment activity felt exposed through their lack of ability to use technology. They did not ask for help, instead opting to isolate themselves from the activity. In removing themselves from interactions within the action of the assessment activity, the activity itself

and the opportunity for aspiring professional accountants' understanding to be transformed was lost;

"We did some training a few years ago where we sent trainees training schemes with actual audit teams to do the learning. We found because partners aren't exposed to the new tool, (the training was around a new audit technology tool) the partners just weren't getting involved. It was just easier for them to play on the Blackberry. So whereas the team of trainees who were getting involved had to report to the partner – the partners themselves removed themselves from the activity. So that idea of getting the training to mirror the day job just didn't work because people just felt exposed from a technology perspective." (Workplace Assessor #8)

This situation really highlights the fact that in order for technology to mediate an action within the competency assessment process, there is a negotiation of power between the user and the technology. This is the case because technology is not self-selecting in the mediating role it plays. Although, technology does have a structurally ambiguous intentionality that supports multiple uses (Connell, 1996). In other words, although there is general intentionality of a technology i.e. its fundamental design use. However, attributes placed on it by the user means that the technology will have multiple uses. For Idhe, technology is not neutral (we do not totally control it) and technology is not deterministic (it will not control us), cited Connell (1996, p.7).

This notion of control and the negotiation of power are prevalent if when in selecting a technology, the technology does not allow the user to use technology as an enabling tool in the way intended or in a way that has a positive transformative affect. Although the technology may have the capability to perform the function associated with the action, it may not be selected for use on the basis that it does not offer the affordance required or valued by the user.

Generally, assessors felt disenfranchised or disempowered by mediation of technology that did not enable them to perform the action that they wanted, in the way that they intended.

Disenfranchisement occurs where power is revoked from the assessor due to barriers to use of the technology. The user may be able to use technology in the way intended but due to other factors such as organisational barriers, preventing the user from exercising their right and power to use the technology in the way intended.

6.2.2 Emotional and sensory response in mediation of technology

It is very interesting that participants made no reference to emotional attachment of technologies that mediate competency assessment actions. In describing their use of technologies they made exclusive reference to the functionalities and capabilities of technologies in relation to the action being performed. However, it is noted that in using the technology that mediated competency assessment experience, the response to its mediation in action is always emotive.

One assessee notes that despite now using technology to perform tasks in her job, she is glad that she learned how to do them manually first;

"I think it is good that we do the computations manually...it would take the fun out of it, if we had to use technology for it!" (Assessee #4)

The notion of fun associated with the action of preparing the computations is not associated with using technology, in this example. Instead, fun was gained by doing the computation manually rather than in a technology-mediated assessment environment. However, further questioning revealed that the emotion of fun is actually attached the sense of satisfaction gained in knowing how to do the computations (not the action of doing accounts manually) without the mediation of technology.

What is interesting in this case is that this assessee used technology (an online business simulation game) to mediate an assessment experience in which her knowledge of accounts preparation (that she now does in her job) was transformed. The mediation of technology of the assessment task enabled her to forensically analyse the information output from the technology and apply her own

knowledge to gain a better understanding of the task and how to perform the task. She was able to identify the error in her manual calculation by using the output of the business simulation game by replicating the inputs manually. The mediation of technology between her and the assessment activities in the assessment environment had a transformative effect. In this case, her skills were enhanced through using technology.

She obviously enjoyed playing the simulation game, but her love and emotional and sensory response to using the game, is due to the fact that it transformed the action of doing the computation and her understanding of the computation itself. Interestingly, at no stage, did she question whether the technology had made an error. She had complete faith and trust in the technology and used it to gain a better understanding of her own knowledge within the context of the task but also better knowledge of accounts preparation generally.

This is an interesting contrast to the conclusions drawn by some workplace assessors, that the use of technology in competency assessment can de-skill the aspiring professional accountant and in doing so is a disabling rather than enabling tool.

6.2.3 De-skilling of users of technology

There was a strong view amongst some (n=4) workplace assessors that mediating action using technology to perform technical functions e.g. accounts preparation actually de-skills aspiring professional accountant. One workplace assessor infers that manual working gives a deeper understanding because the aspiring professional accountant actually puts the accounts together rather than the technology;

“General working was working papers and ledgers which gave you a deeper understanding of how the numbers fit together – it’s the difference between knowing how to put an Ikea wardrobe together and actually physically doing it.” (Workplace assessor #4)

Interestingly, de-skilling as a consequence of undertaking assessment in a technology-mediated environment is not acknowledged by assesseees. They were very clear that the mediation of technology in assessment of technical competence prepares them to perform work tasks more effectively. One assessee notes of a specific technology-mediated module, called “IT for accountants” on his degree course;

“I think IT for Accountants is good – Excel is used a lot for work– I have just learned to do V lookups and pivot tables and use some SAGE, so the module definitely helped” (Assessee #1)

Additionally, assessors suggest that the use of technology to mediate learning and assessment in this way is in a way a Platonic form i.e. it is the experience or idea of mediation (in this example, bad mediation) that is representative of the task in a real world setting;

“. So when you talk about incomplete records, those are relevant questions but the work is mediated by bad technology often and therefore that would apply – Arguably, how it is assessed is almost in some respects a Platonic form of saying this is how this is, so I would say getting people to use word and Excel in the exam is very appropriate, even though it is hard to moderate” (Academic Assessor #7)

This is really interesting because it is this Platonic form that is representative of an integration of assessment domains (and is incorporated into the conceptual model presented in chapter seven). That is, that simulation of the “real world” becomes an integral part of technical competence assessment, through situated assessment and practical experience assessment includes more simulation. We see here, that technology is deemed to have an important role in providing this integration. Indeed, simulation is cited by some participants (n=5) as a powerful form of technology-mediated assessment that develops competency of aspiring professional accountants.

It is of course important to note, that the experience of using technology is not the same for everyone. Whilst some workplace assessors (n=2) felt that a consequence of technology mediation

in the assessment environment, leads to a de-skilling of fundamental skills and knowledge, in contrast assesseees feel empowered and more confident in using them. Aspiring professional accountants who encountered new technologies in work were all very accepting of them and suggested that the mediation of practical experience by technologies enabled them to perform their work functions in a more enabling and powerful way.

This tension between assessors' perceptions of de-skilling and assesseees being very accepting of technology mediation in developing their technical competence, may explain why PABs have, generally been slow adopters of technology in this way and in general. A PAB representative notes; *"In education, we are a slow adopter of technology to deliver.... people's response to technology in the education sector, I think, is Fascinating-I could go on about it forever"* (PAB withheld)

6.2.4 Technology for Assessor judgments - Lack of emotional intelligence

As well as using technologies to perform IPD competency assessment tasks in a more powerful way, is the use of technologies to make judgments of and assess performance of the aspiring professional accountant. Don Ihde conceptualises this as a post-humanist approach in which the technology has intentionality of its own and shapes the interactions of humans with their everyday lifeworld. He refers to this as reflexive intentionality. Within the context of the study, this is the idea that technology may shape how individuals perceive themselves as professionals.

Participants express that the mediation of technology in this reflexive intentionality context is appropriate where competency assessment judgements are based on outcome i.e. the answer/decision rather than cognitive thought process.

A practical example of this is where technologies assess the performance of an aspiring professional accountant, providing feedback on that performance and suggestions on areas of improvement in order to achieve successful accomplishment in the assessment context.

“Technology feedback even with competencies could highlight what I haven’t done, it can recognise trends –It’s easier in my role to pick off finance and knowledge based ones, I haven’t covered leadership ones which for a leadership scheme is not great. The technology could identify ones I haven’t covered and possibly even provide suggestions on how to achieve it.” (Assessee #4)

In fact, CIMA’s membership application tool does this to a degree by using eligibility criteria to determine whether evidentiary materials should pass on to the verification stage. In truth the tool applies criteria on the number of competences that have been evidenced, rather than whether the evidentiary materials meet the judicious criteria e.g. required standard, being applied.

The assessee quoted above believes that the artificial intelligence of the technology may be able to provide feedback associated with how to achieve competency, thus shaping her own perspective on her performance and competency. She demonstrates a trust and belief in the technology to do this and is very comfortable with the locum of power to reside with the technology. She has no issue with the reflexive intentionality mediation of technology in this context.

Again, this view is shared a PAB representative who explains;

“The shades of grey can be replicated quite easily by technology, even better than human beings....AI is able to come up with finer gradations of grades than human beings themselves...It is cutting edge, it isn’t mainstream – we always mediate using human beings but in the future, they will overcome that.” (PAB representative #5)

6.2.5 Impersonal mediation

The following section evaluates mediating roles of technology identified in analysing interview data relating to interactions in the competency assessment environment. Technology mediation is referred to in these examples, by assessees as faceless and depersonalised.

Alterity role in assessment of performance based on evidence

Technology is used to mediate the construction of evidentiary materials for practical experience assessment by PABs in different ways (see Table 12). CIMA's membership application tool checks the eligibility of evidentiary materials submitted for verification. Here, technology adopts what Ihde (1979) refers to as 'alterity role.' That is acting like a human, in that the technology makes the judgment regarding the dependability of the evidentiary materials and advises on the next action.

Disintermediation in Recruitment (at start of IPD)

The IPD journey of an aspiring professional accountant's competency assessment in a work based context begins with recruitment. An aspiring professional accountant cannot does not begin their practical experience until they have secured a training contract or a 'relevant' job role. It is for this reason that recruitment emerged as an important and relevant to competency assessment in professional accounting and has been included. In addition, it is the future recruitment of aspiring professional accountants that influences the face of the profession of accounting moving forward. Recruitment impacts on labour structures, pathways into the profession and evidence of practical experience.

All assesseees, (with the exception of AAT assessee) explained that their initial recruitment into their current roles involved a telephone test and psychometric testing. These were automated, in which the technology posed the question (but did not respond to answers). The performance of the aspiring professional accountant is assessed by the technology who determines whether the aspiring professional accountant was successful in order to go on and progress in the recruitment and selection process. Using technology in this way, is actually using technology as a dis-intermediary in which technology replaces another human.

However, impersonal mediation is not necessarily perceived to be a bad thing or disadvantageous by participants. In fact, assesseees are clear that impersonal mediation of technologies at the early stages of recruitment made the process easier.

One assessee describes the experience;

“The online tests were automated – the interview was basically, three rankings – the person has demonstrated, partly demonstrated or haven’t demonstrated the different things and then it was put it in a computer. It then calculates it and ranks it – they do it there and then. They do the interview and then put it on the computer system. I assume that the outputs of the online test are the same. If two people have the same mark – they look back to the test before to see how they did. In the assessment centre - they put it on the system as well – everything was face to face and then input into a computer.” (Assessee #1)

The deliberate impersonal mediation of technology in this recruitment context is an important part of the process. The role of technologies in mediating this action suggests that employing organisations do not wish to deviate and recruit someone who does not fit this pre-defined profile programmed into the computer. Technology is used as a dis-intermediary in which interactions are impersonal. The role as a dis-intermediary in this way, means that subjectivity and idiosyncrasies of professional judgements made by human assessors’ is removed. Technology applies scientific, modelled, algorithms to select aspiring professional accountants who display certain behaviours, values and qualities. This is a particularly common practice with the “Big Four” and therefore aspiring professional accountants from ICAS and ICAEW. Assessee explain that this practice is seemingly becoming standard amongst larger firms or organisations offering graduate traineeships. Assessee are seemingly very accepting if the “computer says no” and their application is rejected. However, some academic assessors (n=6) and workplace assessors (n=4) did not think the use of technology as a dis-intermediary in this way is appropriate;

“Humans are there to do the judgments stuff - it’s not dissimilar to Myers Briggs – I personally have issue with boxing people in – I don’t think people are that simple- but I am aware that people find power in it – so I am ambivalent rather than cynical about it.” (Workplace Assessor #6).

He later goes on to explain that he believes the use of technology mediating the recruitment process to make judgments about who is selected is reflective of the values of the employing organisation using the technology;

“I would personally as an employer, be very cautious. As a candidate I would think I don’t want to work for them. It’s almost turning the accountant into a computer program and you’re becoming part of the system. It’s getting to the point where you take the data and a pre-defined process that needs to happen to the data and there is an output in a pre-defined form - what then is the point of having the person, you don’t need to recruit a person? – You may as well design a macro!”

(Workplace Assessor #6)

The point made regarding the extent to which technology mediation impacts on the ‘type’ of aspiring professional accountant entering the profession is important as diversity in the profession is an issue. An IAESB representative explains;

“There is always this tension where firms need to get you through quickly and tick these 6 boxes and the need to make you feel like an individual and have their own pathway.... I am a big believer that people recruit people in their own image and that’s something that we fight against constantly...we probably focus too much on the human side. . It’s challenging because now we are faced with a lack of people coming into the profession.” (IAESB representative #1)

Removing the person who is recruiting the aspiring professional accountant with technology, does not address this tension. In fact, by using technology as a dis-intermediary in this way, academic assessors argue that the profession will not move forward. As one academic assessor put it, the profession will become a ‘*collective of automatons.*’

The following section seeks to address RQ4.

6.3 Issues of using technology for construction of verifiable competency evidence

This section evaluates issues that have been interpreted through dialogue shared between myself and participants during interviews that are specific to use of technologies mediating the action of constructing verifiable evidence within the assessment environment.

Table 16, shows how the 6 different UK PABs use technology i.e. web based and electronic portals and platforms, in order for assessees and assessors to create, record, store and retrieve evidentiary materials relating to practical experience recording (competency evidence).

Based on analysis of interview data, a post positivist view in regards to verifiable evidence within the context of competency assessment is adopted. The thesis proposes that verifiable evidence is made up of sensory, mental and subjective propositions and therefore is not objective. However, evidence should be from an authorised source and be capable of supporting an assertion of competency.

These features are essential for the 'dependability' and 'credibility' of the evidence.

There are two major issues associated with using technologies for the construction of verifiable evidence cited by assessors. These are disenfranchisement and dis-empowerment (see Power relations, 6.2.1). As one assessor points out, *"Digital immigrants feel they are living in exile..."* It is the case that, (within the context of this study at least), issues of disenfranchisement and disempowerment impact more on assessors who are older and have a lower propensity to embrace new technology than the younger aspiring professional accountant.

However, issues of using technology for evidence construction are not just an individual level due to the non-capability of the user. They exist at group/system and institutional level, due to a range of socio-cultural reasons. The extent to which issues are prevalent in its use to construct verifiable evidence for competency assessment is largely dependent on the norms, orientations and beliefs of

those within the information ecology where the aspiring professional accountant is undertaking their professional work.

The locus of power between the user and technology is actually drawn out by agents e.g. assessors and forces within the social context within which the aspiring professional accountant is working. For example, some workplace assessors (n=5) are resistant to work products that are created and put on shared drives for others to edit or feedback on within the assessment environment. As such, social structure barriers created by individuals or groups is one of the prevalent issues of using technology for construction of verifiable evidence. Research undertaken by McPherson and Baptista-Nunes (2008) suggests that successful adoption of technology requires the presence of institutional enablers. Part of the issue in using technology for construction of competency evidence, is that institutional enablers tend to be (typically) older, assessors/ partners, who sometimes feel disempowered or disenfranchised by technology.

For all assessees, using technology during practical experience is not an option and is in fact an organisation norm;

“We have to use technologies, it’s all electronic – everything is saved on shared drives, shared documents –The older people are struggling, they learned to use technologies on the job – One of them was talking about the big ledgers – they have to learn everything and their way is better... obviously! Technology if used properly is a lot quicker and better” (Assessee #3)

Here, we can see the importance of winning “hearts and minds” of people (particularly older members of staff) within the organisation when implementing technology. There is resistance to it, if people cannot use the technology in a way that is valuable and meaningful to them. This is an issue for older managers who hold positions of work place mentors or supervisors, highlighted by the following example;

Workplace assessor #4 recalled that he recently asked his assessee to print off all evidentiary materials of practical experience for him to review and sign as hard copy. This was because he did not have the capability to review the materials online (despite his earlier comments regarding a 'young lady's' inability to use spreadsheets properly). In this case, the locus of power was with the technology and had an adverse impact on the assessee's ability to construct verifiable evidence because she was required to present evidence in non-electronic form and then type up his reviews that he had created offline. Here, there are a number of issues resulting in disenfranchisement of the assessee and disempowerment of the assessor associated with using technology that has impacted on evidence construction.

The major issue of using technology for evidence construction cited by participants is the apparent divide between 'Generation X' assessors and 'Generation Y' assesseees in adopting and embracing new technologies such as e-assessment delivery/repository platforms. Assessors are more senior within the organisation and likely to be part of the management structure, so well placed to be institutional enablers. However, their lower propensity to interact with technology within the assessment environment impacts on evidence construction.

Another related issue, is the technology acceptance of PAB representatives at an individual level. This seemed to impact PABs use of technology for practical assessment at the organisation level. Those PAB representatives who embraced new technologies and mediation of technology in innovative ways represent PABs who are using technologies in a wider range of assessment activities and more innovative ways of evidence construction using technology.

6.4 Future role of technology in mediating the IPD competency assessment process

There is no doubt that participants acknowledge an increased future use of technology in competency assessment. In referring to Table 12, it can be seen that since the adoption of

technology-mediated work based assessment by AAT in 2010, other PABs have followed suit e.g. ACCA's interactive ethics module in 2016. Although some are slower adopters of technology than others, for example, CIPFA is still using a paper based system in 2016.

AAT and CIMA are undoubtedly the technology trailblazers within the profession, using technology to mediate meta-cognitive assessment, deliver varying range of work based assessments and associated learning materials. They both have similar views when horizon scanning the future role of technology in mediating competency assessment, citing for example; adaptive technologies, increased flexible pathways of entry into the profession, enabling more flexible and broad models of professional education delivery in a range of geographic markets, more complex and integrated simulation environments.

There is certainly a market need for these proposed technology-mediated processes to ensure that the profession is sustainable and evolves;

"You know the profession should be going to broader models of entry – we are going to have problems in years, if we don't have enough people coming into the profession and so I think different routes and pathways are needed – if you look at the firms we are certainly a lot broader. When I joined there were a few pathways in – tax or audit and everybody did ACA. Now with my hat on as a Qualifications Director we now have 23 pathways in and potential qualification routes so that flexibility is quite important, technology plays a big part in that (Workplace assessor #8)

The potential of technology to quite literally change the face of the profession by opening up new opportunities and flexible pathways should not be underestimated. Participants explain technology could allow minority groups of aspiring professional accountants to perform functions that they ordinarily would not have been able to do.

One workplace assessor notes;

“It has an enabling thing across accessibility– physical disability – they couldn’t do the same job when it was quills and ledgers – what with adaptive technologies, voice recognition software- skills set and brain, they don’t necessarily need the fingers to follow.” (Workplace Assessor #5)

As well as changing who enters the profession, technology can create new ways of “reflexive intentionality” (Ihde, 1979), which will help shape the future self of the professional. One assessor notes;

“Is it going to make people change the way that they think of themselves as a professional? If they are going to get the same outcomes, more equitably, more cheaply, through technology you would expect them to do this anyway, but then more robustly and the chances are that they are going to measure more things – so if you look at KPMG - they have worked with BPP where everything they turned into a competency based framework, so I think that there is a lot more student measurement of performance going on anyway, certainly more than when I was a trainee – technology can collect the data – because it is a database, it is a lot easier to match peoples’ professional performance – fewer places to hide or indeed develop– so it might be not getting into the profession is the problem.” (Academic assessor #8)

The capabilities of the technology are recognised as transforming the aspiring professional accountant’s understanding of their own personal identity. A small number of participants (n=5) suggest that technology may change the way that the aspiring professional thinks of themselves as a professional. Some participants (n=9) comment on the capabilities of technologies to collate and scaffold performance data that matches to professional performance and can be used to develop deeper self-reflexive understanding one’s own competency. An example of this may be the use of e-portfolio. This is an obvious opportunity for CIPFA who currently use a paper based portfolio (PEP) as evidentiary materials of practical experience.

Here, technology provides representation of reality that needs to be read and interpreted. This means that the role of technology is hermeneutic in nature. For example, if CIPFA's PEP is made electronic, the perception of competency would be co-determined by technology. Although one might be focused on the technology that one actually sees - immediately and simultaneously - is not the technology itself but rather the world it refers to (Hogan and Hornecker, 2011).

An IAESB representative notes, that although she is unsure what the representation of realities and experiences will look like in the future, she can envisage that the role of technology will change the ways in which assesses and assessors are directed in reality.

“Technology could deliver more bite size chunks of learning that you pocket and badge like brownies; your experiences are recorded as badges on your arm and you stroll up to your interview with that! You could collect the evidence as you go – it’s an interesting prospect ...It (technology) is going to play a bigger role – don’t ask me to describe it – I am not sure.... there’s the e-assessment of technical skills, recording of real life events – it could come into play in many different ways” (IAESB representative #3)

What is particularly interesting about this quotation, is the reference to wearing experience on your arm. In this instance the technology becomes a physical extension of self and forms what Ihde refers to as “embodiment relations.” In this case the technology becomes transparent, in the same way that a pair of glasses is transparent.

Ihde (1979) shows this diagrammatically as;

(Human ↔ Technology) ↔ World

The use of simulation, digital avatars of professional profiles or badging of experiences (issued by professional body), leads to representations that provide renewed experiences of what assesses are doing and seeing in the ‘real world.’ These new representations may even reveal aspects of their experiences that were unknown to them. In fact, one PAB representative goes so far as to

suggest that practical experience should be replaced with simulation and gamification. He uses examples of pilots, engineers and medical professionals who clock up hours of simulation and are competent before “doing it for real”. He suggests resistance to this within the profession is because of a lack of understanding in the market.

There is a clear recognition by participants that the dynamic capabilities of technologies mean that their role within the assessment context moves along a mediation continuum which may progress to between post-humanist e.g. alterity and post-modernist roles e.g. embodiment. Humans become related to a technology, which they see as a “quasi other” (Ihde, 1990) e.g. new representations of professional self-e.g. as an avatar. But it is also the case that the capabilities of technologies and potentiality associated with them, reflects a post-modernist approach in which technologies are recognised as active generators of representations of reality, which may shape how individuals actually view themselves as professionals.

What is clear from the findings summarised in chapter seven, is the changing nature and transient role of technology within the technology-mediated environment. We see how the use of technology changes the way in which assessees and assessors think and act and the meanings ascribed to technology. It is clear that within the context of assessment, technology, evidence the assessee and assessor have a recursive relationship. The use of technology is generally a requirement in the workplace to carry out work duties. This is considered an imposition of technology by a few assessors (n=2) on actions within the assessment environment. Technology-mediation draws out a sensory and emotional engagement between active agents within the assessment environment.

It is clear from analysis of data collected from participants that the use of technology changes the meaning of the technology to the assessee or assessor using it and in turn in using the technology mediates the perceptions and actions of the assessee and assessor. Participants spoke of feeling disempowered or disenfranchised in their roles because of their inability to use technology in the

way that they intend. Similarly, technology empowers others, providing new ways of gaining knowledge that they had not been able to access without using the technology.

The mediating role of technology is determined by a wide range of factors at an individual, group and organisation level. The role is transient but exists between a continuum from hermeneutic, embodiment through to alterity relations. In terms of mediating the assessment process, its role can be complex and context dependent. However, participants are clear that subjective judgments are required to assess standards of performance associated with nuanced competencies (e.g. social and decisional capital). It is a unanimous perception that artificial intelligence of technologies cannot do successfully (the one exception is the CIMA PAB representative)

It is therefore the general view that technologies should not assume alterity relations and effect disintermediation in practical experience assessment to determine competency. PABs explain it is this need for emotional intelligence, but particularly, empathy that is the reason why it is critical that a qualified accountant and ideally a member of the PAB is the IPD competency assessment assessor.

However, participants recognise that increasing capabilities of technology means that computers may have an increased role in assessment of competency. As is noted by one participant, *“I would say, what does it mean to be a professional - perhaps the computer will say.”* (IAESB representative #4)

6.5 Summary

It is clear that different PABs are using technologies in different ways to assess and record practical experience (see Table 16, Chapter 6.1.2). As such, technology is used for different activities in competency assessment. AAT, ACCA and CIMA use technology to mediate assessment in a range of sophisticated ways including simulated environments. ICAS and ICAEW use technology for the construction and uploading of evidentiary materials. CIPFA still operate a paper based system of

assessment. The varying degrees of use of technologies for practical experience assessment by PABs impact on the values and affordances placed on technology by assessees and assessors in the assessment environment.

The thesis proposes that technologies can adopt hermeneutic, embodiment and/or alterity relations within the assessment environment. An exploration of these roles shows that there are many factors impacting on the role that is performed by technology that extends far beyond use for evidence construction for practical experience assessment.

The findings of the empirical study presented in this thesis are aligned with those of Gupta & Bostrom (2009) technology-mediated learning framework. That is, there is a range of socio-cultural and socio-environmental factors that impact on the mediating role of technologies within IPD competency assessment environment. Significantly, the extent to which technology is deemed an effective mediating tool within the context of the technology-mediated assessment environment depends on the affordance and potentiality of the technology placed by the aspiring professional accountant. However, regardless of the affordance or potentiality of use, the actual mediation of technology in assessment requires a negotiation (which may involve relinquishing of power) between the user, their assessment environment and the technology due to the cultural norms and professional work practices associated with professional work in the technology-mediated environment.

Therefore, in considering how technology may be used to mediate assessment environment in a value-enhancing way, it is important to recognise contextual factors impacting within and outside the organisations for whom assessees and assessors work. The contextual factors identified in this study include; organisational dynamics/power relations, resources, skills & capabilities of agents within the assessment environment, infrastructure, organisation norms, life-cycle of technologies.

The thesis presents empirical analysis that shows technology does enable the construction of verifiable evidence for competency assessment. The thesis has determined that technology is an active agent within this process.

Gupta & Bostrom (2009) developed a technology- mediated learning framework. The framework recognises learning structures, relationships among these structures, the social system where the learning environment is taking place, appropriation of the structures, influence on social context or reciprocal causation, and influence of actors and power dynamics (cited, Saadé 2011, p.396). Many of the features of their framework, emerged as significant within the technology-mediated assessment environment of this study.

Technology assumes a range of mediating roles (hermeneutic, embodiment and alterity) during interactions between assessees, assessors and actions, in different ways, in different contexts within the assessment environment. Therefore, the mediating role of technology within the assessment environment is dynamic and transient.

Actions within the assessment environment are mediated by technologies in a way that may transform the experience of the action of evidence construction e.g. making it quicker, easier, less resource intensive, easier to comprehend and understand or alternatively, making it slower, more resource intensive, onerous fuzzy etc. It is clear from the data transcribed and emergent themes, that technology is a mediating tool that enhances and alters human development. Technology is perceived by participants to have capabilities and functionalities that enable more powerful and functional ways of facilitating competency assessment. However, if this is the case, the technology is an enabling tool. It becomes a disabling tool if not used properly or perceived as not being able to be used.

Additionally, although mediation of technology in the assessment environment evokes an emotive and sensory response, it is interesting to note that some mediation is deemed to be impersonal.

This, however, should not be mistaken as a sign that technology is dormant or inactive in mediation. In fact, impersonal mediation often occurs when technology is most active as an agent in its mediating role, negotiating power and intentionality. In some cases, the technology is a dis-intermediary, removing the human assessor altogether e.g. in recruitment by Big Four significantly impacting on pathways into ICAEW or ICAS, CIMA's eligibility check before verification of evidentiary materials.

Reference to the impersonal nature of mediating relations, is really a way of describing the lack of emotional intelligence or empathy demonstrated by technologies in the context of assessment, which is different to that of human to human interaction. It is impersonal mediation that is perceived as a strength in its role of dis-intermediary, where value is accorded to the lack of emotional intelligence and empathy demonstrated by the technology.

Users can feel empowered or disempowered by technology. As a tool, technology can enable or disable the user's ability to perform an action intended. In all interactions between agents and technology in the assessment environment, value is accorded to the usefulness of technology and its compatibility with the intentionality of use.

There are issues associated with the use of technology rooted in power relations that exist between the user and the technology. These may be impacted by organisation level systems and/or norms and the capabilities of the user themselves. The use of technologies to mediate action is driven by motivations and affordances placed on the technology by the user. For example, we have seen the impersonal nature of the mediation of technology valued by employing organisations as leading to what they believe to be optimum recruitment and selection decision making. Hence, cultures and work practices which encourage the use of technologies normalise their use for professional work.

All PABs (with the exception of CIPFA) use electronic technologies for evidence recording of practical experience and is fully accepted by assessees. There are a few workplace assessors (n=2) who are

not accepting of technologies in this way but they themselves recognise that this is a limitation on their part. For other assessors, an acceptance of new technologies is typically met with some initial resistance. However, those who persist to be resistant to new technologies in professional work can become disengaged with work as the technology becomes a barrier to their ability to perform actions as required.

There is clear belief amongst assessors (n=13) that technology does have the capability to mediate assessment in a way that is transformative in terms of self-reflexive understanding. Importantly, this is generally perceived to be the case when technology is used to collect and store performance and capability data as evidence that is then mapped to performance. Examples cited, include; client references, job reviews, peer assessments. In using technology to mediate assessment in this way, the understanding of self and one's performance is transformed. The mediating role of technologies here are hermeneutic and may also be embodiment in nature.

The issues associated with using technology to construct verifiable evidence depends on a range of contextual factors and consequently is not static, moving along a continuum depending on range of contextual factors. There often barriers/issues that arise because of non-technology related factors. These factors come into play at an individual, group/system and institutional/organisational level.

Verificationism (where propositions are determined as true or false, so binary in nature) changes the intermediary or mediating role of technology. For example, we see verification of evidence in the preliminary stages by CIMA portal. Here, technology makes evaluative judgments within the assessment environment adopting a dis-intermediary role, and removing human assessor judgment.

Disintermediation of technology (where technology assumes an alterity role e.g. replacing a human assessor) is not deemed to be appropriate by PABs at meta-cognitive levels of assessment i.e. human assessors are still required to evaluate practical experience based on competency evidence. ICAEW and ICAS continue to use human assessors at 'shows how' (e.g. case studies) and 'does' level

(practical experience) assessments. ACCA selects the use of technology in an alterity role on its ethics module, which is essentially rules based and therefore didactic and therefore easy to program answers for. CIMA uses technology for initial verification of evidentiary materials, but further verification is carried out by two human assessors.

AAT and CIPFA require competency evidence i.e. work products to be sent in with practical experience records for assessment. AAT are far and away the market leaders in this respect, with CIPFA at the other end of the spectrum operating a paper based system.

The representative of AAT notes;

“.....The flip side is that not all of them have done as much work as we have done about workplace evidence as we have done because we have been able to show the other ways of doing it.”

Different PAB representatives place different affordances on technology, with some perceiving technology as more valuable than others. This reflects the different roles technology adopts in mediating competency assessment and the construction of evidentiary materials across different PABs.

Moving forward, CIMA intends to explore the option of using technology in a dis-intermediary role in its practical experience assessment in the future. The PAB representative argues that technology can be programmed to display the emotional intelligence required to make professional judgments of competency assessment.

It is here that this chapter ends on a cautionary note.

Some participants (n=4) lamented the *“use of technologies for the sake of it”* and a situation where technology advances itself in a way that Heidegger (1953) proposes, ‘threatens to slip from human control’ (pg.4). Heidegger suggests that modern technology brings a new way of ordering the world, which is distortive and is capable of changing our sense of being in a misrepresentative way. This is

mirrored by participants' fears of being turned into, for example *a macro* i.e. auto-maters who routinely follow sets of instructions based on pre-defined criteria to perform particular tasks, rather than professionals who are capable of exercising professional judgement and moral reasoning. Technology needs to mediate assessment effectively, in such a way that assessment retains its integrity, relevance and validity.

Another fear cited by assessors (n=3), is a reliance on data as a proxy of professional identity, capability and competency through for example badging that does not capture the 'essence' of the professional. The irony of this is that current practical experience assessment currently captures 'the essence' of a professional via evidentiary materials that in some cases are no more than a checklist of completion of tasks. This really points to a fundamental issue not just associated with the mediating role of technologies within IPD competency assessment, but the whole assessment process itself.

The thesis proposes that competency is an ambiguous, complex, moral orientating action, which extends far beyond the individual's ability to do their job. Yet, it is performance in a job that is the basis by which judicious criteria is set and assessment is made. It is worthwhile noting that IES 6 specifically makes reference to assessment as "the measurement of professional competence." Measurement of competency is not an exact science. As much as competency itself is a complex, nuanced social construct, its assessment, is too.

It is important to get assessment right, the importance of which should not be underestimated.

Nothing we do to, or for our students is more important than our assessment of their work and the feedback we give them on it. The results of our assessment influence students for the rest of their lives (Race et al, 2001, p.xi)

The penultimate chapter of the thesis seeks to draw together the findings of chapters five and six, providing solutions provided by participants in response to identified issues associated with the

research questions. Extensive analysis of documentary materials and interview data have been drawn together to formulate a revised conceptual model, which is underpinned by the technology-mediated theoretical framework developed following initial analysis of the interview data.

CHAPTER SEVEN– DISCUSSION (Knowledge claims)

7.0 Development of technology-mediated professional competency assessment conceptual model

The chapter is presented as a discussion chapter. The chapter provides findings based on interpreted relational meanings of themes in the data analysed that relate to the research question;

“Does the use of a technology-mediated environment enable the construction of verifiable competency evidence on which valid judgments about the professional competency of aspiring professional accountants are to be made by third parties?”

The knowledge gained from interpreting experiences, perceptions, accounts and understandings of competency assessment by accounting professionals, has been framed to create a conceptual model that is mediated by technology. Importantly, a valid instrument, the conceptual assessment framework (CAF) has been used to frame the model. In mapping empirical data collected and analysed during the study to the CAF, RO’s 1-3 (See Chapter 1.5) are achieved.

The conceptual model is a representation of the competency assessment system, made of the composition of concepts i.e. verifiable evidence, competency and technology-mediation. A discussion of the findings used to help readers understand the phenomenon of technology-mediated competency assessment, that the model represents, is presented in this chapter.

Importantly, the knowledge claims presented in this chapter have been used to provide a conceptual model that could be considered for use in assessment. The model is ‘validated’ by IAESB representatives as a possible, workable model of IPD assessment that incorporates verifiable evidence, technology-mediation and competency assessment.

The development of the conceptual model follows three stages depicted in the diagram below;

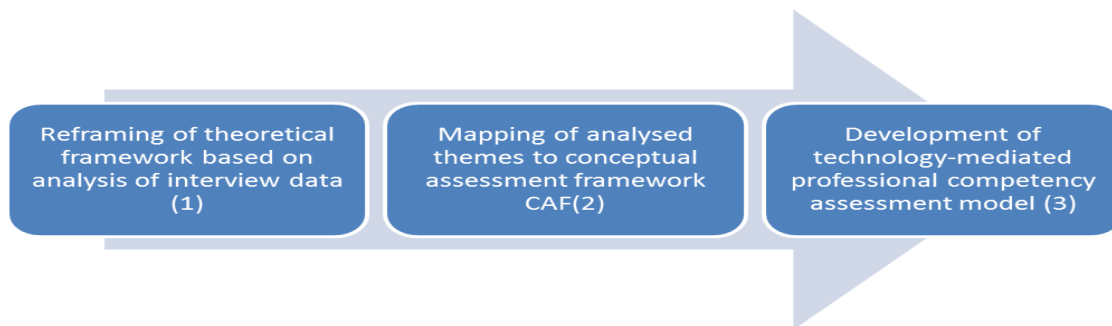


Fig. 22 Three stages of technology-mediated professional competency assessment conceptual model development

- (1) The reframing of the technology-mediated theoretical framework from the original theoretical framework has been explained at the end Chapter four.
- (2) Chapters five and six provide analysis of the themes emergent from analysis of interview data, which in this section are mapped to the CAF.
- (3) The final technology-mediated professional competency assessment model is presented at the end of this chapter (Chapter seven)

7.1 Stage 2 - Analysis of themes to be mapped to CAF

The following section uses the CAF framework to map the themes emergent from the study.

Importantly, it is the relational analysis associated with the dominant themes (discussed in empirical chapters five and six) that is mapped using the CAF and is used to frame the technology-mediated professional competency evidence centred design assessment model.

It is this model that is to be 'validated' by IAESB representatives.

7.1.2 The Student model - What is being measured?

There is a split between the PAB representatives in terms of what they suggest should be measured in terms of skills, values, dispositions, behaviours etc. when assessing IPD competency of aspiring professional accountants.

Most PAB representatives (n=3) suggest that technical competence requirements of PABs are broadly the same. A few PAB representatives argue that the rigour of their qualification is what distinguishes them from other PABs. It is clear that PABs believe they all have different performance thresholds that apply to their IPD assessments. Assessors recognise there is different brand identities that distinguishes PABs, but perceive the technical competence requirements of all PABs to be broadly the same.

However, one IAESB representative (withheld), lamented that;

“CIMA for me is still an accounting qualification and you could qualify without preparing a set of final accounts from Trial Balance. That for me is the way technology has acted in a really negative way in relation to that.”

The differences identified through documentary analysis, relate to practical experience assessment.

ACCA, CIPFA and ICAS are identified in the literature review (See Chapter 3.2.6) as employing holistic competency frameworks based on a hybrid of the functional and capabilities model. A feature of their practical experience requirements is a requirement to reflect on values, behaviours, dispositions relating to the person as a professional, as well as a requirement that they evidence their capability. This is reflected by explicit competencies that are required to be evidenced such as professionalism & leadership.

When interviewed, a number of PAB representatives (n=3) concede that the range of assessed practical experience competencies could be narrowed to reflect less specialist subject competencies. In fact, some of the PAB representatives (n=2) explained that practical experience requirement is under review with these changes in mind.

AAT representative explains that the main driver of assessment design is government and employers. Other PABs spoke of feedback from a ‘wide range of stakeholder groups’ and changes to IES as driving assessment change. ACCA explain that they have now revised their practical

experience requirements to be effective as of mid-2016 in view of IES changes and employer feedback. They have moved to less prescriptive essential competencies, but will maintain prescriptive activities of technical competencies. The new essential competencies are centred and focused on professional values and behaviours; Professionalism and ethics, stakeholder relationship management, strategy and innovation, governance, risk and control and leadership. They suggest that these will be evidenced by the aspiring professional accountant providing short reflections of experience validated by a practical experience assessor. Essentials cannot be evidenced through ticking off. The PAB representative of ACCA suggests that essential competencies are rooted in action rather than knowledge;

“Under stakeholder relationship management, the aspiring professional accountant is required to display cultural and interpersonal empathy in all communication, establish trust and credibility with a range of stakeholders – That wouldn’t be a task, that would be something that you would demonstrate” (PAB representative #2)

The change in essentials competencies reflects the significance that is placed in evidencing and measuring the extent to which the aspiring professional accountant displays certain behaviours and dispositions. It is the case therefore, that we see a slight shift away from a functional approach to more of a meta-competence approach, that focuses on professional values and behaviours.

This shift by ACCA demonstrates a need for competencies linked with the professionalism of the individual to be embedded in practical experience assessment across the whole profession of accounting. Assessors (n=13) noted an aspiring professional accountant should add value to the organisation that they work for and to wider society. It was this that led me to revisit the literature and frame the competencies referred to by assessors and assesseees required for successful accomplishment of performance as “professional capital” (Hargreaves and Fullan, 2012).

A recommendation of the thesis is that that the aspiring professional accountant's competency should be 'measured' in terms of their human, social and decisional capital. It is the ability of the aspiring professional accountant to demonstrate sound moral reasoning, to exercise professional judgments, to develop trust relations and reputational capital with clients and wider stakeholders that is fundamental to successful accomplishment of performance.

In terms of *what* should be measured in order to determine technical competence, all PAB and IAESB representatives are clear. Aspiring professional accountants should be able to produce an accurate final set of accounts, to analyse financial performance and position and provide analysis and explanation of financial information to non-finance stakeholders in a meaningful and technically sound way. There is a unanimous view amongst PAB representatives that this is achieved through the PAB exams. Two PAB representatives suggest that these competencies should ideally not be mediated by technology in assessment, but that external pressures e.g. employers were driving the change. Indeed, the adoption of technologies by PABs in practical experience assessment has been a combination of "*keeping up with the times*" and "*pressure from employers.*"

Although PAB & IAESB representatives agreed with the principle of professional capital, there was concern as to *how* it could be appropriately measured. It is acknowledged as being a good framework to scaffold professional competencies e.g. to constructively align professional capital for an e-portfolio for CIPFA.

However, suggestions by participants regarding the use of peer observation/assessment and professional body representatives locking into existing performance appraisal systems and the moderation of professional judgments to a minimum standard threshold, might overcome some of these issues.

What is significant from the interviews with PAB and IAESB representatives is a general view that social capital is very important but it is difficult to assess and measure.

7.1.3 The Evidence Model - How do we measure it?

PAB representatives were very clear that the responsibility for verifying performance and importantly, that performance reached the standard required of the PAB is that of the workplace assessor. PABs concede that the current system relies on trust and that there is some risk, but that this risk is mitigated through the employer accreditation schemes e.g. ATE and through maintaining relationships with the employers. Again PAB representatives (n=3) interviewed did acknowledge that they have increasingly significant numbers of aspiring professional accountants who are training within organisations that are not accredited by the PABs which by inference suggests is therefore a growing area of risk.

The reliance placed on the relationship between the PAB and employers, clearly creates disconnect between them and aspiring professional accountants. Another theme that emerged from interviews with aspiring professional accountants is the lack of professional identity as they have and no direct relationship with their PAB. (This was also the case with many qualified accountants during their discussions on CPD). It is therefore the case that professional identity of aspiring professional accountants is shaped by the organisation that they work for.

PAB representatives (n=4) suggest that as values, beliefs, dispositions, behaviours that make up competency are actioned in the work place, it is appropriate that the workplace assessor signs off records of performance based on observed performance in the workplace. Again, PABs running employer accreditation schemes cite the quality controls put in place during the process of accreditation as assurance that when a workplace assessor signs off to say tasks have been performed expected of PABs with professionalism. PAB representatives suggest that the reflections by aspiring professional accountants provide the “verification” of assertions of competency, where validated by a workplace assessor. It is clear that there is a significant amount of trust built into the system between PABs and employers, which has really led to shortcomings in the verifiability requirements of evidence.

Interestingly, all PAB representatives spoke of the risk associated with aspiring professional accountants who do not have access to qualified accountants to review their performance and sign off records of performance. Two different PAB representatives spoke of pilots that are being run, where remote mentors are being used to review documentary materials provided by the aspiring professional accountant. The drivers for these pilots are to assist aspiring professional accountants who are unable to have records of practical experience signed off by a workplace assessor/mentor, on the grounds that they are not professionally qualified. The irony of this situation is that these pilots implement many of the suggested solutions provided by assessors and assesseees in interviews when asked how to address limitations with the current IPD competency assessment approach. For example, in the pilot schemes being run has the following features;

- 1) Remote mentors who have no prior relationship with the aspiring professional accountant
- 2) The review of a range of materials from the workplace, evidencing tasks that have been undertaken (providing triangulation and verifiability)
- 3) Aspiring professional accountants' practical experience assessment is supplemented with a Viva Voce (the expression used by the PAB representative who made reference to it – rather than professional conversation) undertaken by the remote mentors with the aspiring professional accountant to verify performance evidenced
- 4) A mandatory e-learning module for new remote mentors to complete before they can undertake the remote mentor duties
- 5) Use of peer review to assess the performance of aspiring professional accountants, with the peer providing a reference to validate performance

It was put to the two PAB representatives that these pilots adopt a more rigorous approach, as a range of evidentiary materials are provided and the remote assessor/peer assessor undertakes investigatory work to verify the performance evidenced. One PAB representative notes;

“To one extent it could be a far more rigorous approach than the mainstream approach, but the trainee does not have the day to day support in the workplace or access to a qualified person as well – so there’s swings and roundabouts – but it is something that is very small scale at the moment we are talking about less than 100 people on the pilot. However, if it is successful, it would be something that we would build into our online tool, the supplier that we are working with has delivered something similar for educational institutes so we are fairly confident that we would be able to build that in.” (PAB representative #2)

In this comment, we see an acknowledgement that the role of a workplace mentor differs to that of a workplace assessor. The drivers for pilot schemes of this kind is increased non completion/attrition rates of IPD. However, again, ironically, the pilot model is designed for marginalised groups of assessees who do not have access to a practical experience supervisor. The design of the pilot model, addresses the mainstream issue posed by the duality of roles of the practical experience supervisor also adopting the role of assessor. In this pilot model, the remote mentor has no prior relationship with the aspiring professional accountant and is required to access evidentiary materials such as work products, client testimonies etc. in order to verify the performance that the aspiring professional accountant asserts has been achieved.

The other pilot referred to by another PAB representative involves a peer-mentoring model. Thus, this model also addresses issues with segregation of duties and verifiable evidence in the same way. However, a peer-review model raises questions about the ability to exercise professional judgements and professionalism, if the peers do not have the professional experience required themselves. An IAESB representative suggests that a peer model of measurement is a good way to measure competency;

“We found people tended to cross compare progress with their peers a lot more and we have had intakes set up online groups and share progress, share issues that they have had. As an employer that’s dangerous because wrong information can get out there but if that’s how people want to work

and collaborate – who are we to stop it? The more you can give people this stuff then the better it becomes. I think where it works really well, is where you get a mentoring relationship. No-one was made to do it, maybe those who were struggling and weren't academically high flying got so much more from it than those parallel teams – it wasn't formal, you didn't have to do it, we didn't require it to be documented but it meant that there was a much more open dialogue and with someone who was not involved in their day job. When you're in a profession, there is always that fear factor of looking stupid, so the more that you can remove that fear, the more people are going to talk about it and just open up about – actually, that didn't go well. (IAESB representative #3)

The suggestion is that a peer-assessment model is a safe, informal environment in which collaborative communities of practice can share experiences. However, it is not a place where IPD assessment decisions should be made. In fact, assesses themselves spoke of using online spaces e.g. forums and networks for collaborative sharing of assessment experiences and to seek advice about decisions to be made at work.

Therefore, in summary a review of the data shows that PAB and IAESB representatives are in agreement of how to assess professional competency of aspiring professional accountants. A combined approach is advocated by both groups. A consensus is reached that suggests professional competency based on practical performance should be assessed using the “professional capital” framework. This represents a much more holistic competency framework, incorporating both functional and capabilities approach, some features of which exist in the current approach.

Detail of how professional capital is evidenced is provided below;

Human capital – Should be ‘measured’ via technical PAB examinations assessed by independent assessors.

The current PAB exam model of assessment is fit for purpose. PAB representatives confirm that there is extensive consultation with employers, industry specialists, practitioners and academics to

ensure that content of the PAB exams are valid. A range of quality assurance measures are put in place to ensure standardisation of assessment and marking.

There is a shared view that at the “show how” and “does” competence levels, although programs and code could be written, more credible judgments are likely to be made by human assessors. One PAB representative disagreed with this view suggesting that technology should be used exclusively to assess practical experience, but acknowledged that the market would not allow it to happen.

Social capital – Should be developed in the aspiring professional accountant through adopting a collaborative or peer approach to professional work.

Social capital assessment should seek to ‘measure’ the extent to which the aspiring professional accountant has contributed to team performance and developed their own social capital. This requires building relationships, ideas and understandings that improve performance over time. Participants agree that this is best measured through peer review and informal structures, where possible.

Decisional capital – Should be measured via feedback and feed-forward reviews of workplace tasks, where professional judgements have been exercised.

Decisional capital assessment is about ‘measuring’ professional judgements made by the aspiring professional accountant. It also includes evaluating their moral reasoning and how they have navigated themselves in reaching a decision/action etc. A really important feature of the assessment and measuring of decisional capital is feedback. For this reason, the view is that decisional capital should be measured by a professional with recent experience (most PAB representatives suggest two to five years post qualification and ideally shared industry experience with that of the aspiring professional accountant), who is able to advise the aspiring professional, based on their own experiences on reaching professional judgements.

7.1.4 The Task Model - Where do we measure it?

As competency is rooted in performance in work, participants agree that measurement of practical experience should be in work, via formal performance appraisal and review. It is the case that accredited employers are required to perform periodic reviews (every six months) of this nature with their aspiring professional accountants. However, it is clear from interviews with assessees that many aspiring professional accountants working in family businesses, SMEs, third sector organisations etc. may not have access to opportunities for performance evaluation and review in work. This was a surprising theme that emerged from interviews with assessees and assessors.

It has therefore been suggested by IAESB representatives (n=3) that measurement of professional capital could be facilitated by locking into existing performance appraisal systems. Where there is no formal appraisal, this will need to be set up by the employer, with the assistance of the PAB. One IAESB representative suggests;

“I think where you would get a lot more support from firms is where the professional accounting body goes into existing systems which is why I think that shadowing meetings, getting that observation is a better way of doing it – to get that observation, to get a better feel for the quality of discussion.” (IAESB representative #3)

However, when this was put to PABs, there was a real reluctance for this to happen. PAB representatives repeatedly came back to the trust placed on workplace assessors and the low risk associated with the system as a result of the work undertaken with employers. However, IAESB representatives with *“no axe to grind”* welcomed the approach, but acknowledged that PABs would not like it. However, most (n=3) did not feel that employers would be unduly bothered by this approach, citing apprenticeship schemes and AAT as already setting a precedent.

IAESB representatives confirmed a view that is shared by academic assessors that one way of verifying performance and the standards associated with claims and assertions of competency is for PABs to review a range of documentary materials (performance and capability portfolio evidence)

and to have a professional conversation with the aspiring professional accountant. At present all PABs rely on the practical experience records they issue to aspiring professional accountants to be submitted. ICAEW and ICAS, permit the use of appraisals in specific circumstances as supplementary records of activity and achievement. They suggest that the use of a client code enables them to follow an audit trail to review work should they need to (this rarely happens according to representatives).

It is only CIPFA who use a portfolio approach, though it is paper based (not electronic). The representative of CIPFA says of the use of discussion or professional conversation;

“We did use to interview all candidates about all portfolios – we stopped doing that and went to a sample based approach, as and when we feel we want to – It is an expensive undertaking – that is the nub of the issue and I don’t think it can give you much more evidence than you can get anyway through interacting with the employer – Yes you can see that the candidate is real but I think you can work that out anyway without interviewing them. I am not sure that it adds much more reassurance - I mean there is a little risk in there but I think that the best way of managing that risk is working with the organisation that they have worked with rather than directly through the candidate – I don’t think it would be a wildly good idea, but clearly, if it became something we were required to do then we would work out a way of doing it! But it would be quite expensive wouldn’t it? For a global audience of students and about 50% of our students are non-UK now, it would be quite an interesting challenge. (PAB representative, #3)

The challenges of measuring professional competency and providing meaningful, useful feedback using professional conversation (referred to colloquially by some participants as interview) via performance appraisal systems is noted by an IAESB representative who starts by reflecting the purpose of the interview used by CIPFA when she worked for the PAB;

“The purpose of the interview was to find out if they had done the task and have they got the ability to reflect on how a situation went and understand what they need to do to make it better next time – So as much as being able to demonstrate competence it’s that self-awareness – what I need to do next time. So you can use the process to verify the performance that has said to have been done. I think it would be a challenge for the professional body to provide feedback to make it useful it needs to be personalised and that’s a challenge – In the workplace you would hope that it would come through the performance review – you need a little bit of headspace before giving feedback and that’s a challenge” (IAESB representative #2)

Although the workplace is seen as the most appropriate place for competency to be measured, there is acknowledgement amongst PAB and IAESB representatives that not all aspiring professional accountants have access to relevant work experiences. In fact, PAB representatives explain that this is a growing trend in some markets. They have also noticed that an increasing proportion of aspiring professional accountants are deciding to focus on their technical PAB exams before trying to get relevant work experience. PAB representatives suggest that in these cases, the task model could incorporate simulation. A PAB representative suggests;

“I suppose one area we are looking at is simulation to make people more work ready - getting them to apply technical knowledge to real life situations – we might consider - Can you get part of your PER by simulation?” (PAB representative#3)

A different PAB representative suggests that the capabilities of technology will provide opportunities for better simulations in assessment;

“I think we will see a better simulation module – which it is a more realistic version of a real life work situation and that’s where you can see the technology going particularly in competency based assessment” (PAB representative #2).

Finally, another IAESB representative suggests the use of simulation should not just be restricted to those who do not have access to practical experience, but as a means of providing a safe space to make mistakes and reflect;

“I think sometimes real life with a historical angle is fine – but actually real time learning is actually more powerful sometimes and I think simulation has to be one of the tools in your toolkit as a trainer. I think sometimes simulation is needed for people on the job as in the day job, you don’t have time to reflect - you don’t have time to absorb what you have done which is why I think those professional conversations are so important but the problem is that that is a very variable technique so, simulation allows a certain metric that you can attach. Conversely, to those who aren’t doing the day job – I think that there is only so much simulation you can do until people just have that desire to have a go and do it for real – so that goes back to my earlier point that you only really learn when you do it the first time for real and I think it’s about how you introduce that, whether it is through work experiences, internships or whatever” (IAESB representative #3)

Assessment tasks would be authentic and modelled on what happens in professional practice; feedback would involve peers, disciplinary experts and those in relevant roles and professions.”

(Davies, 2010 p.10)

7.1.5 The Assembly model - How much do we need to measure?

IAESB representatives agreed that the breadth and diversity of competencies required of an aspiring accountant, is well captured by the professional capital concept. However, one of the challenges posed for assessment, is how much is needed in order to have been deemed to achieve successful accomplishment at the minimum performance threshold. IAESB representatives noted that the minimum performance threshold was different depending on the PAB.

It is noted by IAESB representatives that sometimes; the use of assessment can be to drive learning - what Knight (1995) refers to as ‘assessment for learning’ rather than ‘of learning.’ Thus, for

example, the inclusion of social capital in competency assessment is needed to drive behaviour e.g. promoting pro-social activity rather than as a means of exclusion from the profession if the aspiring professional has not generated a lot of social capital. The inclusion of decisional capital is to ensure that tacit knowledge about moral reasoning, making professional judgments, applying scepticism is encouraged in aspiring professional accountants and made explicit when reviewing performance. They need to be sufficiently confident to challenge and critique business practices that they are required to follow and assessing it can help drive this behaviour. An IAESB representative notes;

“Testing does not drive the behaviour in the workplace in the same way that the technical questions do. You answer the technical questions and you can apply them in the workplace –Yet I think having the code of ethics that they sign to should be the moral compass – It’s a difficult one – raise the awareness but assessing it - that’s tricky...” (IAESB representative #1)

As agents within the assessment environment, assessors and assessees have a capacity to act with intentional action, which IFAC suggest in IES 6 is a form of moral agency. They are trusted to act in a professional way that serves the interest of the public. This requires PABs to assess practical experience in a responsible and reliable way. However, the issue with the system it is that the assessment environment is one underpinned by trust relations between the agents. Assessment of competency of practical experience is the sole judgement of a practical experience supervisor who is not selected on the basis of their expertise or suitability for the role, but on the basis that they themselves are members of the profession. Similarly, and significantly, is that the standards applied to ‘measurement’ of competency by these members of the profession are based on organisational standards, which vary and are not consistent and importantly, not always checked by PABs.

It is my view based on the findings of the study, particular areas of ‘assessment risk’ exist in organisations where employers (or people making up the organisation) legitimise unethical practices. Competency assessment of practical experience encourages the status quo to continue.

This is a real issue as we have seen the responsibility for developing and shaping the professional identity of aspiring professional accountants is the organisation for which they work, not the PAB.

A PAB representative is clear on this issue;

“I don’t want to be unkind but if HSBC was doing (training outside the profession scheme) what kind of culture are the trainee accountants being trained in? Is it in a good way? The feeling was if they were trained in accounting offices, they were being trained by people who had been trained and it was just being handed down... However, what you want is that they either train with an accounting firm or they train with an accounting firm who is adjudged to be the right quality and culture and demonstrate the right work ethos to people.” (PAB representative, PAB withheld).

Another interesting observation here is the assumption that an accounting firm is more likely to adopt legitimate professional practices than an accounting office in an organisation.

All PAB and IAESB representatives suggest that the amount of experience that is measured is not important. What is really important is the context of performance (this emerged as a significant relational theme in analysing the data from assesseses and assessors.) Understanding the context of performance and development of professional capital is more important than its measurement. Importantly, the assessor needs to understand the connection between what has been actioned by the aspiring professional accountant and its link to human/social/decisional capital rather than how much of it i.e. professional capital is created.

The whole philosophy of IPD competency assessment is anchored in a belief in the professionalism and professional judgments of qualified members of PABs, acting as assessors in the assessment environment. The PAB representatives are very clear that their role is not to “measure” competency. This really comes back to the idea that metrics should not be used to measure professional capital. Assessment should be focused on understanding how the aspiring professional

has navigated themselves through complex issues, difficult situations, worked collaboratively in order to develop their professional capital.

In order for judgments regarding competency assessment to be credible, dependable and trustworthy, practical experience assessment needs to be robust;

“I think as long as there is confidence in the robustness of the assessment and as far as possible the quality of the end product person is assured – I think that is important for client confidence and wider society – You only have to look at banking to see when it all goes wrong – it’s going to take a generation to get over that” (IAESB representative #2)

The majority of assessors (n=10) suggest that it is the responsibility of PABs rather than organisations to ensure the quality assurance of practical experience assessment.

PAB and IAESB representatives all agreed that there is a minimum performance threshold at which professional capital should be demonstrated. However, in analysing the data from interviews, it is clear that it is very nebulous.

Competency is such a transient, nebulous set of morally orienting practices & understandings, that it is impossible to measure. However, in assessing professional competency, professional judgment has to be applied to determine whether a minimum threshold of performance has been achieved. What is most important in terms of the assembly model is that assessors are trained in a way that standardises their approach to assessment and their application of professional judgement. It is the robustness of the assessment system and the assemblage of agents within the system to ensure that appropriate professional judgments are made, rather than the measurement of competency that is most important.

One IAESB representative sums up the difficulty in trying to measure competency with assessment by stating, *“Assessment is an art, not a science”* (IAESB representative #4)

7.1.6 The Presentation model – How does it look?

Assessment of competency in IPD takes place in an education and practical experience context.

Although the thesis focuses on practical experience, the assessment model that has been developed provides an integration between education, simulation and real professional environments, to both develop and assess competency. It is for this reason that technical competence assessment tasks in an ‘education context’ (CBT and CBA) have been included in this section.

Technical competence – CBT, CBE & CBA

PAB and IAESB representatives agree that the PAB exams are valid but do require some development. Validity of assessment is provided through the close work and consultations with employers and industry specialists to write exams, which all PABs do. In addition, there are very robust processes of checking exams for relevance, plausibility of scenarios/situated assessments etc.

PAB exams typically have a range of “objective testing” right through to complex case studies. There is an acknowledgement amongst all PABs that ICT needs to be embedded across some exams as an integral aspect of technical competence. Table 9 shows how different PABs use technology in their exams. CIMA, AAT and ACCA have implemented CBA across all levels. CIPFA have implemented CBE at all levels except strategic level. ICAEW aim to bring in the first computer based exam in March 2017. ICAS use CBT at the Test of Competence for some of the exams at level (1) and Test of Expertise (Level 3). There is no intention to implement CBE at Level 2 (Test of Professional Skills) due to “the nature of the exams” (PAB representative #4)

IAESB representatives suggest that ICT should be incorporated into PAB exams. An IAESB representative notes;

“So obviously the knowledge stuff is much easier to assess online, what is really interesting is the conversations that they (PABs) are having about moving that into more qualitative assessment- So

using the case study marking scheme through technology and I was a big advocate when I was on the Assessment Committee of getting the institute to think about actually the day job is about 90% IT, working at a computer and yet we don't assess it, it's not how the world works and what they need is skills and they have to have the ability to use IT. My global role and that's not just in the UK, that's in Africa, in Asia – IT is everywhere and whether you are analysing it, using it, IT needs to be used and that must be part of your toolkit.” (IAESB representative #2)

PABs using CBT at the metacognitive levels (n=3) explain that tasks appear in work based settings and require the use of spreadsheets and databases, as well as report writing applications, to simulate conditions in the workplace. A PAB representative notes the blurring of lines between exams and practical experience;

“I do think the lines between exam and practical experience are blurring – we can use more practical in the exam and a lot more simulation into practical experience.” (PAB representative #1)

PAB representatives explain that there is an increased focus on situated learning, set in practical contexts, with increased use of synoptic assessment such as case studies at the higher (professional) level exam papers. AAT are unquestionably the leading PAB in terms of assessment delivery using technology to assess competency in a situated learning context. A PAB representative of AAT explains;

“We use some very advanced assessment within our assessment technology platform that allows us to assess effectively – We are a vocational qualification, a competency based qualification - So what we want to do is not only test the knowledge but also the skills and the application and so we have some very advanced technology working within our assessment platform that allows us to do that via the system and without getting into the technical detail of that – It allows us to follow through how a candidate is using information, pulling it down from outside sources, working through calculations, we can assign marks to work in progress, all different aspects of that with all those advanced

question types, so it allows us, quite a good degree of flexibility around how we assess – In terms of what we assess. Obviously we are competency based, so we can assess right across the spectrum of what they could be assessed on and they can be assessed on anything.” (PAB representative #4)

In conclusion to what the model looks like; the technical competence domain part of the model proposed is similar to the delivery platform emerging in the profession now. This means, increased use of CBT at the knowledge levels. Technical competence in accounting covers a wide range of subject areas, driven by the needs of employers in the market. This part of the presentation model focuses on the functional capabilities of the aspiring professional accountant, which must incorporate the use of data and information to make professional judgements and decision making.

The model presented here, integrates the “simulated” environment and “the real.” It recognises the importance of simulation and assesses what the aspiring professional accountant actually does e.g. through simulated work activities and using accounting systems to carry out work based tasks.

Simulation provide a safe environment in which to learn, but is connected to the real. For example, the ACCA simulation ethics module would be more closely integrated to the actual practice and situated assessment of decision making in the workplace, rather than as a standalone module.

It is important to note that the focus of tasks such as these is not on the answer (although that is clearly important); it is on the cognitive process undertaken by the aspiring professional to reach the answer. This new emphasis on decisional capital is really reflective of the changing role of accountants within organisations. An IAESB representative notes;

“It is suggested that it would be the chief information officer would be the chief accountants – such is the thinking that the technology - A set of accounts can be put together from lifting stuff and ‘puff’ because of the way its coded – You have to be able to understand of debits and credits to be able to demonstrate oversight – but are they going to need analytics and that sort of competency – it’s more about interpretation, analysis and verification – like computer auditing – the aspiring professional

accountant needs enough technical ability to know that the outputs are filtered off and correct.. We are almost going back to Accounting and information studies degree – the two things coming together again, technology doing bits of the job that you would do – means that the nature of assessment needs to change.” (IAESB representative #1)

It is important to note that simulation is proposed to be used as a situated learning environment that bridges the technical competence and practical assessment based domains. This space allows for transferability of skills, which can be applied in the practice based assessment domain.

Practice based assessment

Currently, practical experience requirements across different PABs differ in scope and range, with a combination of generic and/or specialised technical competencies. However, broadly speaking, the “generic” sometimes referred to as essential competencies or mandatory competencies are very similar; professionalism, ethics and governance, personal effectiveness and business management, team-working.

Assessors clearly view these competencies as more important to the competency of an aspiring professional accountant than specialised competencies that can be gained post qualification. All participants, without exception spoke of the importance of the aspiring professional accountant to develop an ability to analyse information, to reason and communicate what the information means, to exercise moral reasoning and make sound professional judgments. Hence, competencies identified through analysis of the interview data with assesseees and assessors have been framed into professional capital. The articulation of competencies to be assessed as professional capital by assessors for IPD has been welcomed by IAESB representatives as representative of appropriate requisite capacities on which successful accomplishment of performance is to be based.

Interviews with IAESB representatives suggests agreement that the use of electronic portfolio evidence, with materials from different sources is a good way of providing verifiable evidence on

which assessment judgments can be made. It is the responsibility of the aspiring professional accountant to assemble the portfolio and submit it periodically for assessment. Anything submitted should be signed and dated by the client, stakeholder, manager etc. for whom the work was carried out for verification purposes.

Importantly, rather than creating a two tier system, IAESB representatives suggest that portfolio evidence collection should lock into existing performance evaluation/appraisal systems. CIPFA currently uses a paper based portfolio approach to practical experience assessment but is reviewing this approach to make the portfolio electronic. Importantly, AAT has used electronic portfolio for workplace assessment since 2010 and have never had any issues raised by employers regarding commercial sensitivity. Yet, workplace assessors (n=4) suggest that this would be an issue in sharing work products for assessment.

Professional competency is not merely technical in nature; it is ambiguous and is assessed within the assessment environment within several different specific structures and contexts. There is the 'profession context' in within which accountancy operates, broader corporate structures operating within which accountancy is integrated, and then broader still social contexts in which organisations themselves operate. It is therefore the case that the presentation model, relies on the professional judgments employed by humans to make judgments at all levels. However, it is within the profession context that professional competency is demonstrated. The ambiguity of the cognitive processes associated with performance at this level requires understandings, empathy, and emotional intelligence from humans to understand them. It is the belief of participants that technologies are unable to do so effectively (see Chapter six)

Another distinguishing feature of the presentation model from that of the current approach is that it seeks to separate the duties of mentor and assessor. This approach is advocated and used by CIMA and AAT and is currently being piloted by ACCA. The presentation model, seeks to use a "remote assessor" who has no relationship with the aspiring professional accountant to review documentary

materials (electronic portfolio evidence e.g. email exchanges, reports, presentations, excel files) and engage in professional conversation with aspiring professional. These materials are submitted as verifiable evidence to 'measure' professional capital. Assesseees and assessors interact in an assessment environment mediated by technologies and verifiable evidence to determine whether a minimum threshold of performance has been demonstrated.

The proposed assessment approach requires a triangulation of evidence (including professional conversation) that is facilitated via work based performance appraisal. It is proposed that all existing members PAB members are trained to become remote assessors and in doing so gain CPD points. Once PAB members pass the training, they should be required to conduct a small number of remote assessor reviews each year. It is these remote assessor assessments that could be sample checked to ensure the correct assessment procedures have been followed. All PAB members would be required to undertake periodic standardisation training. Training of assessors in this way is conducted by AAT and CIMA.

Peer mentoring is also incorporated into the model of technology-mediated competency assessment, although not formalised into assessment. In doing so, aspiring professional accountants are encouraged to engage in communities of practice, to share experiences with a peer (perhaps being allocated a buddy e.g. recently qualified accountant who they can consult if they need to) by the PAB or via their professional networks. Peer mentoring not only provides support for the aspiring professional accountant, but is an invaluable way of developing their social capital.

7.1.7 Mapping of themes to conceptual assessment framework (CAF)

The conceptual assessment framework underpinning the technology-mediated professional competency conceptual model presented is presented below;

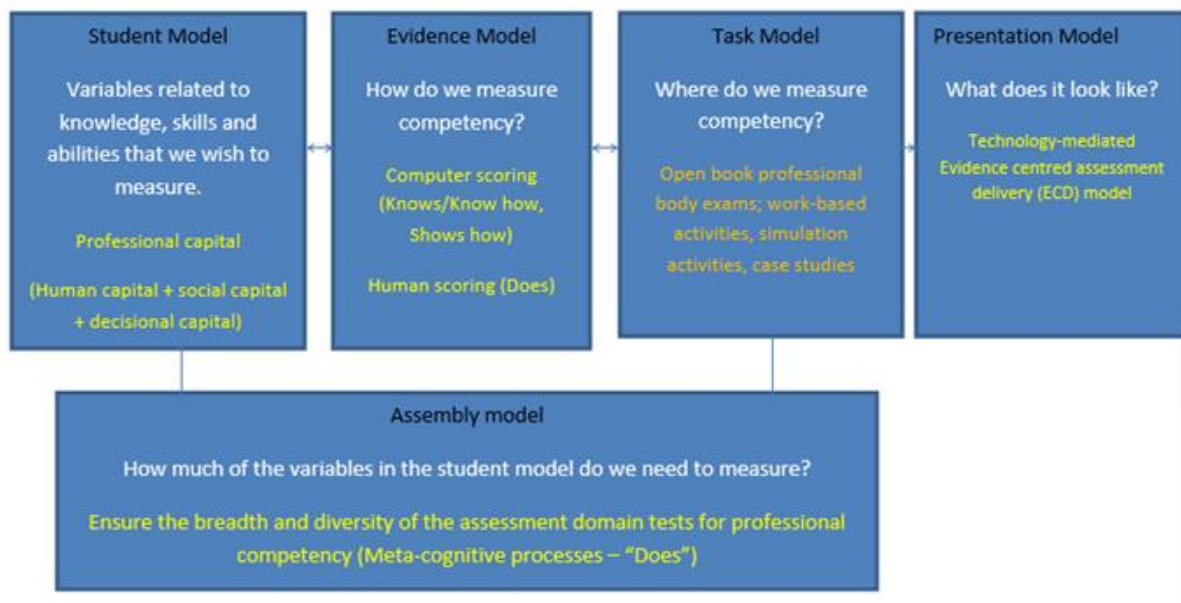


Fig. 23 Conceptual assessment framework (CAF) of technology-mediated competency assessment

The following section explains how each dimension of CAF is mapped to dominant themes that emerged from the data analysis.

7.18 Technology-mediated professional competency conceptual assessment framework

Professional capital is measured using computer scoring at “Knows/Knows how and “Shows How” levels.” At the “Does” level, when aspiring professional accountants have to demonstrate action rather than knowledge. The ambiguity and nuances involved in applying subjective judgment to assess competency at this level means that only human scoring is appropriate. The main reason cited by participants for this, is the need for emotional intelligence and empathy that is not shown through the artificial intelligence of technologies assuming an alterity role i.e. disintermediation.

Competency is measured through a combined approach and requires aspiring professional accountants to demonstrate professional capital in a professional context. Importantly, action is in this context is undertaken through simulation and practical experience. ‘Measurement’ of professional capital is a matter of professional judgment as different professional bodies have different requirements, however a minimum technical competence threshold evidenced by

achievement of professional exams must be achieved. What is important is not the measurement of professional capital but its link and connection with work based activities and simulations (task model). This connection must be evidenced through a combination of documentary materials (portfolio evidence) and professional conversation (which make up verifiable evidence). This approach provides a robust assessment approach, using principles of triangulation and verification of performance.

The technology-mediated professional competency evidence centred design model will be delivered through locking into existing performance evaluation/appraisal systems and using technology to juxtaposition the real and “virtual” assessment environment, so that assessment is not bound by time (subject to when the appraisal is scheduled) or space. Importantly, remote assessors use their subjective professional judgments to determine whether professional capital has been evidenced to support assertions of competency made by the aspiring professional accountant by reviewing their actions in practice. As they are remote assessors this needs to be done via verifiable evidence as they do not observe the aspiring professional in the workplace.

In reviewing this evidence to determine whether a required minimum threshold of performance has been achieved there is of course a balance to be struck. Increasingly, accountants need to demonstrate analytical skills, negotiation, team-working and collaboration and less technical competences, due to the capabilities of IT. However, technical competence remains a fundamental competency requirement of the aspiring professional accountant, so this element must be retained in PAB exams, despite the increased need to “test” cognition. It is absolutely the case that the two domains of the presentation model are not mutually exclusive and are indeed integrated and that it is the affordances of technology that enables it. There is a lot of cross-domain contextualisation of work based tasks and technical competence demonstrated in exams is applied in the ‘profession’ domain. However, what this presentation model proposes is that there is a focus on meta-cognition and the process of exercising professional judgments, moral reasoning, decision making rather than

the function of work based tasks in the practical experience domain (hence the reference to 'profession' domain)

The following section introduces the four processes within the assessment environment in which verifiable evidence is constructed in the conceptual model.

7.2 Stage 3 – Development of technology-mediated competency assessment model

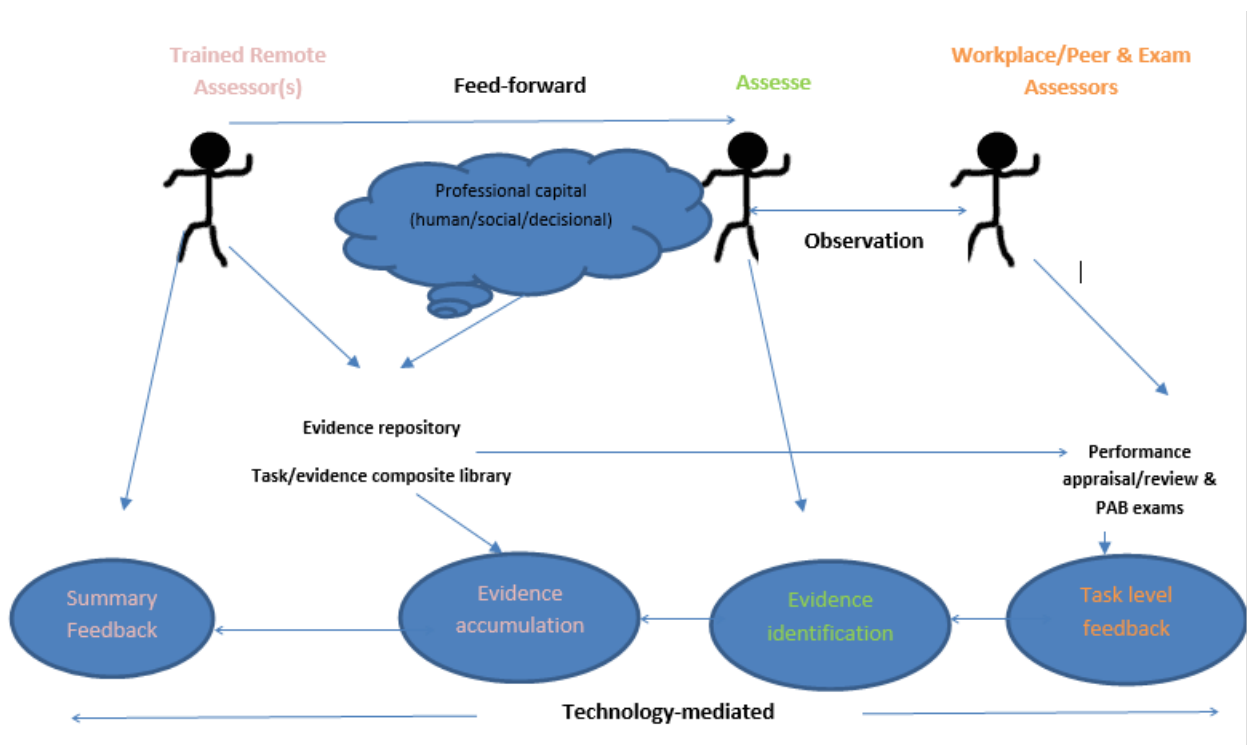


Fig 24. Four principle processes of the technology-mediated professional competency assessment model.

The process shows that task level feedback is provided by workplace, PAB exam and peer assessors relating to human/social/decisional capital via exams and simulated work tasks. This provides task level feedback which feeds into evidence that is selected and accumulated and submitted for review in the profession context, by the aspiring professional accountant. A remote assessor locks into the performance appraisal review system to review evidence accumulated as part of a professional conversation (which not only corroborates performance, but also forms an artefact as part of the verifiable evidence on which evaluative judgment regarding competency is made). The remote assessor provides summary feedback on the extent to which the evidence “corroborates” assertions

of competency made. This feedback is based on their subjective professional judgments applied in reviewing the evidence submitted as “verification” of professional capital of the aspiring professional accountant.

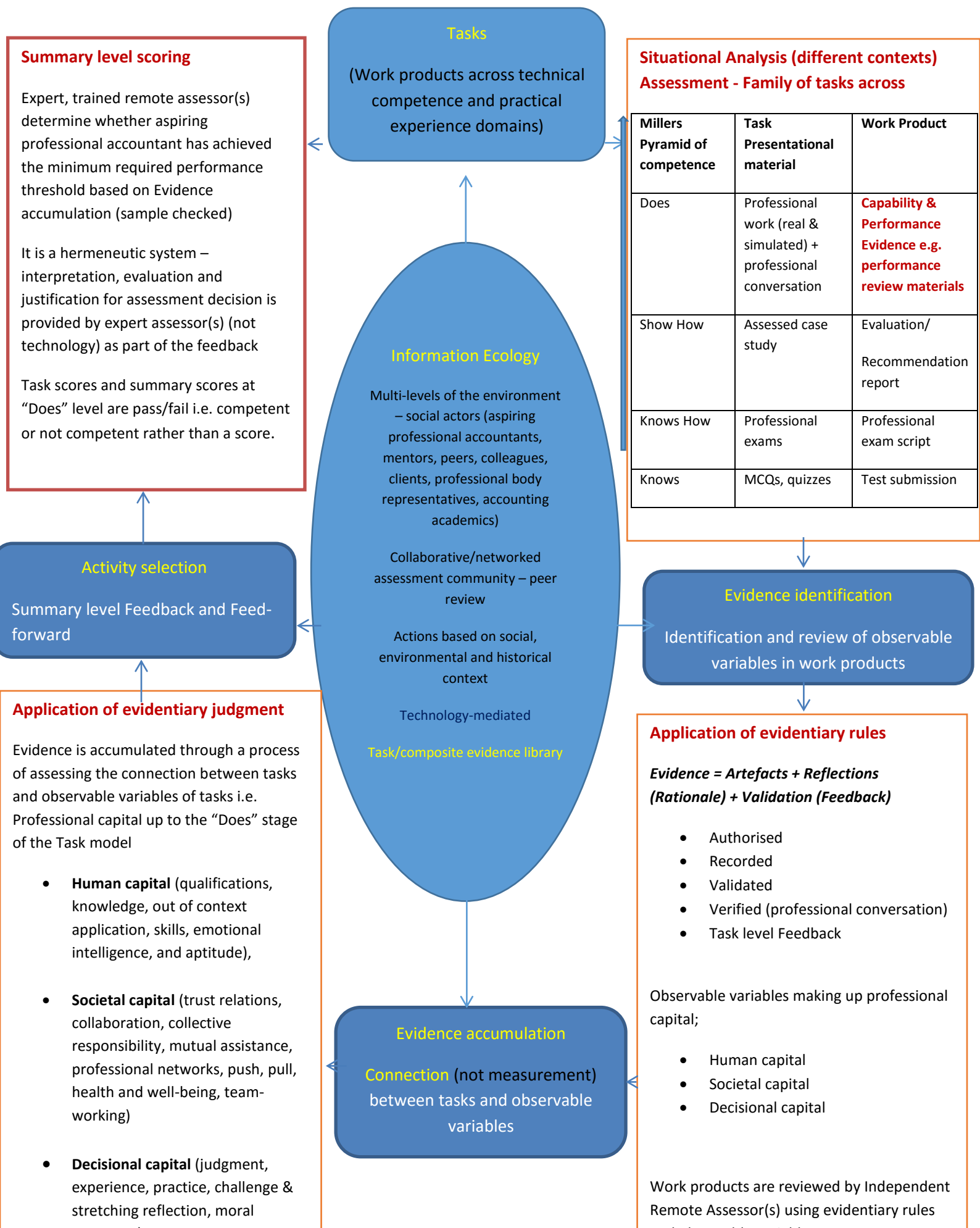
7.2.1 Technology-mediated professional accounting competency assessment model

The conceptual model presented here is an operationalisation of the CAF (see 7.1.7). It has been developed through systematic mapping of themes (using constructive alignment principles, see 2.4.3) emergent from empirical data and documentary analysis. The model is framed using CAF and operationalised using the four principle processes of ECD.

The conceptual model presented in this section been validated by IAESB representatives. However, it is important to note that they are individual views of representatives and do not represent the views of the IAESB as a collective body.

The ‘validated’ conceptual model is presented as a workable operationalisation of the theoretical framework presented in Chapter 4.3. The conceptual model builds on the theoretical framework presented in Chapter 4.3 through extensive analysis and understanding of how technology can best mediate good, responsible competency assessment. Therefore, this conceptual model goes beyond framing the theories relating to technology-mediated competency assessment. It is a conceptual model that incorporates the construction of verifiable evidence upon which valid judgments of professional competency of aspiring professional accountants can be made by third party assessors, thus addressing RO2 and RO3.

Fig. 25 Technology- mediated professional accounting competency assessment model.



7.3 Summary

This chapter is presented as a discussion chapter. Its aim is to show how, following interviews with key assessment policy decision makers. The findings from the study mean that it is framed as a conceptual model that is deemed to enable the construction of verifiable evidence on which judgments about the competency of aspiring professional accountants can be made by third parties.

This model provides a wider conceptualisation of verifiable evidence and address some of the issues identified in the literature review, associated with practical experience assessment and its basis as the context and space where competence is measured. In addition, issues with the evidentiary materials used for competency assessment (in terms of verificationism), identified in the literature, are to some extent addressed, using solutions provided by accounting professionals.

The presentation model conceptualised is theoretically underpinned by sound pedagogical frameworks and strategies (e.g. Competence pyramid (Miller, 2003), professional capital (Hargreaves and Fullan, 2012), constructive alignment (Biggs, 1996), conceptual assessment framework (Mislevy et al, 2006). The conceptual model is developed from ideas, perspectives, beliefs, experiences of social actors with experience and responsibility for IPD competency assessment.

Importantly, the model has been 'validated' by key competency assessment decision makers; IAESB representatives, to determine whether it could actually work in practice.

That is not to say, that there are not limitations associated with his model. Although most participants were in favour of an assessment model that locks into existing performance appraisal and review systems, a few participants (n=5) did raise some concerns. Clearly, small businesses are concerned about the additional administrative burden that it might place on them. However, a small number of businesses (n=3) were asked to review the model and expressed approval of the model, as long as evidence identification & accumulation is the responsibility of the assessee (as is

currently the case) and summary level scoring undertaken by PABs (remote assessors) was say on an annual basis.

It is clear that competency (rather than competence) is demonstrated as the “Does level.” Evidence is conceptualised as authorised, validated work products that should incorporate feedback from task level from a range of workplace and peer assessors. It is the role of the remote (independent, third party) assessors to evaluate these work products to ensure firstly that they meet evidentiary requirements e.g. they are validated and secondly, that evidence “corroborates” the aspiring professional accountant has demonstrated successful accomplishment of performance within the context of professional capital in the integrated professional environment (including simulated environment). This replicates the good practice model used by CIMA (and that being currently piloted by ACCA).

It is then down to the professional judgment of the remote assessor(s) (e.g. PAB representative and industry specialist) to determine whether there is connection between the work products and professional capital through the assessment of activities/action. This is determined by reviewing verifiable evidence accumulated (rather than work products) to “measure competency” and determine whether the aspiring professional accountant is “competent” or “not competent” based on the evidence presented for assessment. It is imperative that the evidentiary materials that are accumulated are constructively aligned to the requirements of professional capital and mapped to appropriate performance standards which should be clearly and expressly set by PABs. The remote assessor(s) are required to provide feedback, which should feed-forward into the next assessment review.

It is important that this assessment model is recognised as a professional development tool. That is, that the assessment model is therefore formative as well as summative.

The model adopts a holistic perspective of competency, reviewing not just technical competence but values, judgments, dispositions, actions of the aspiring professional accountant. It recognises the “backwash” effect (Gibbs & Simpson, 2004), where what is assessed, drives the learning and behaviours of the assessee. Thus, it is anticipated that this backwash effect encourages aspiring professional accountants to recognise the importance in developing their professional capital (not just their human capital) as a fundamental requirement of being a competent accountant.

It is intended that by encouraging a more collaborative and collegiate approach to developing human capital through peer models of learning/assessment, that this will lead to increased levels of social capital within the profession. The use of verifiable evidence to support assertions of competency made by the aspiring professional accountant, rather than a checklist of prescriptive tasks, is expected to make the IPD assessment process more rigorous and credible.

In addition, it is anticipated that the mandatory training of assessors, will enable them to exercise professional judgments in a consistent and dependable way (as argued by AAT and CIMA) to ensure that a minimum performance threshold within the context of demonstrating professional capital.

Chapter 8 – Thesis Conclusions

In drawing the thesis to a conclusion, an elaboration on how themes discussed in chapters five, six and seven relate to the research questions and are therefore indicative of original research output is provided.

However, before discussing this, it is important to reflect on the contribution of this work to the research community.

8.1 Contribution - Theoretical implications

The literature review identifies a research gap in the area of technology-mediated professional competency assessment in professional accounting. Whilst there are studies and theories relating to professional competency assessment, research on technologies in this area is focused on their use rather than their mediating role. Also, given that IES 6 is only introduced in July 2015, there are also no studies to date that investigate or explore the construction of verifiable evidence within a technology-mediated competency assessment environment.

Hence, this research study has contributed new knowledge to an area of accounting that where little research is undertaken and in a relatively new context, provided by changes in IES 6.

The empirical chapters draw out meaning from socially constructed concepts of competency, verifiability and evidence using interpretations of experiences of accounting professionals and documentary analysis of materials relating to competency assessment.

Technology mediation

Observations in the data suggests that the theoretical proposition is true. All participants spoke of interactions within the practical experience assessment environment mediated by technology. This also includes recruitment, job reviews, and appraisals during IPD.

It is exploration of the phenomenon of technology mediation in this context that has led to the original theoretical proposition being not just ascertained but also refined. Hence, the study now proposes;

*Technology is an **active agent** that mediates interactions between assessors, assessees and evidence within the competency assessment environment of aspiring professional accountants “*

Currently, technology adopts a range of mediating roles within practical experience assessment. Its use by PABs for assessing performance in this context is variable across the profession. It is very interesting to note, that accounting professionals perceive the mediating role of technology in practical experience assessment, to change over time. The changes will see changes in technology being used simply as portals or repositories of evidentiary materials (as is current practice) to one where technologies could be perceived as **moral agents**. This happens when technology determines both what it is to be professional, but is also indistinguishable from the aspiring professional themselves e.g. as Avatars. Beliefs expressed by accounting professionals regarding the lack of emotional intelligence of technologies suggests that they do not perceive technology as being able to exercise moral agency they suggest is required by competency assessment. However, accounting professionals acknowledge that it may be that technology changes the perception of the reality of aspiring professional accountants, influencing or even changing their actions within practical experience.

Theoretical findings are not restricted to technology but also relate to competency, its assessment and verification of evidence. These are explained in more detail below;

Professional competency

Based on empirical findings of the study, this thesis theorises that professional competency is ambiguous and transient in nature. The thesis proposes that it is a set of morally orienting practices, understandings and personal characteristics that need to be recognised, enabled and facilitated by

IPD. Professional competency is assessed within several different specific structures and contexts within the assessment environment. There is the 'profession context' in which accountancy operates, broader corporate structures operating within which accountancy is integrated, and then broader still social contexts in which organisations themselves operate. These contexts have been conceptualised as an information ecology (Nardi and O'Day (1999)). They explain that this is a system of people and practices, mediated by technologies.

Data collected from participants within the information ecology shows us that it is within institutions i.e. organisations that professional competency is actually assessed and in different contexts. It often starts with recruitment for aspiring professional accountants on training contracts and continues formally through periodic performance appraisal and reviews. For others, it is informally through actions required of them in their work role, implicit behavioural norms etc. Although PABs control who enters the profession (through membership control), assessment of competency of aspiring professional accountants is primarily undertaken by employing organisations. The reality therefore, is that successful accomplishment of performance is assessed on the terms of the organisation.

Conventional competency theory suggests that aspiring professional accountants serve and protect the public interest. This is affirmed by IES 6 (2012) and IFAC's mission statement. It is the case therefore, that the theoretical lens through which interpretations of the mediating role of technology in the assessment of professional competency of aspiring professional accountants is based on conventional, altruistic trait theory. However, the empirical evidence of this study suggests that this is not the case and affirms more contemporary self-interest rationale theory as the lens through which the mediating role of technology is interpreted. This is explained in more detail below.

Evidence of competency

On several occasions, participants cited examples of successful accomplishment by aspiring professional accountants who were not perceived by them to espouse the values, dispositions and behaviours expected of a professional accountant. Successful accomplishment was achieved, not in pursuit of professionalism but because they “*demonstrated magic with the clients,*” or “*had the gift of the gab.*” It was clear to see when participants were re-telling these experiences, that they have no respect for these individuals as professionals, expressing an active avoidance of them and their activities. However, it was conceded that these individuals were perceived to have performed well by practical experience supervisors, as they were hitting performance targets typically linked to selling products/schemes to clients (that they often did not need) and consequently were promoted. It is also the case that some of these individuals did not successfully accomplish their PAB exams and were seemingly given more leeway than others because they achieved their performance targets.

Therefore, despite observations by participants and in the literature about professional accountants serving the public interest, it is important to note that “*Competency only has meaning in the context in which it sits*” (Workplace assessor #7).

The organisation/institutional context in which aspiring professional accountants of UK PABs gain their practical experience is an economically, capitalist context. The conditions in which the profession of accounting operates and its creation of public value can be traced back to Marx and the notion of capitalism, Weber who writes about the status sought by professionals in joining professions and Durkheim, whose conception of professions as moral communities is what professions are ideally typified as by participants. However, it is clear from analysis of empirical data and documentary analysis that the theoretical lens through which professional competency assessment of aspiring professional accountants of UK CCAB PABs are assessed is based on self-interest rationales sharing Marxist and Weberian philosophies (rather than those of Durkheim and moral communities.)

Empirical chapters five and six of this thesis provide new depth and refined understanding of how Evetts (2006, 2011, and 2012) 'organisational professionalism' is a useful framework to use in critiquing the self-interest rationale dispositions. She asserts that 'organisational professionalism' incorporates "hierarchical structures of authority, the standardization of work practices, accountability, target-setting and performance review" (Evetts, 2006, p.140-141). Aspiring professional accountants enjoy Weberian 'social rewards' (status and prestige) of professionals alongside economic rewards if successful within the context of 'organisational professionalism.' Benefits, as well as value are associated with Marx's exact positioning of privileges accorded to the owners (employing organisations) and producers (PABs).

In short, what it is to be professional and successful accomplishment of the professional in their professional practice is based on organisation set standards and performance requirements, what Cook et al (2010) refer to as 'organisation homology'. This shapes future behaviours so that aspiring professional accountants become "competent" in a way deemed suitable by the employing organisation.

In accounting, capital is used as a proxy of value. This conceptualisation is used to explain the value and synergistic effects in developing the competency of aspiring professional accountants right across the profession. This notion of capital is important; Bourdieu (1986) suggests that capital is worthy of being sought after in particular social formations.

In adopting a critical stance on this issue, based on the findings of the study, it is suggested that the value generated by organisation's adopting self-interest rationales is a means of economic protection & preservation. Some economists would argue that this goal is not necessarily in contrast to serving the public interest. However, given then the explicit requirement in IESs that aspiring professional accountants serve the public interest, the thesis suggests that (enforced) regulation of assessment, such as that for AAT, is required to ensure that this is the case. It is imperative that judicious criteria on which successful accomplishment of performance in a profession context is

based on the principle of serving the public interest and not self-interest rationale. It is this underlying principle that is justification for the rationale that PABs that must take control of the profession context and assessment of competency within it.

The thesis draws on recognised good practice from education and proposes the use of Hargreaves and Fullan's (2012) 'professional capital' as a way determining requisite capacities needed for successful accomplishment of performance. The development of professional capital is not an altruistic ideal, but one that brings benefit and value to society as a whole. It is proposed that the achievement of professional capital in a profession context that confers the power and status of a professional accountant, should be controlled by PABs. Assessment in this profession context is one of the single most important distinguishing features between a professional and occupational accountant. Hence, another theoretical contribution of the thesis is the conceptualisation of competencies as 'professional capital' and its application in practice to 'prove' demonstrably that the aspiring professional accountant is serving the public interest. In doing so, is a *professional* accountant.

In terms of assessment and evaluative judgments of whether the standard of performance in which professional capital is applied results in successful accomplishment, empirical analysis has shown that there is a belief that competency cannot be "measured" and is very subjective. The study argues for a minimum threshold of performance that has to be explicitly set against which subjective professional judgments can be made. The threshold is clearly contextual, but there is a general consensus that it is the responsibility of each of the PABs to determine what this is (in collaboration with other agents in the assessment environment). PABs should regulate its assessment.

Additionally, another empirical finding is that accounting professionals believe that subjective (rather than objective) evaluative judgments are valid and credible in competency assessment. However, validity, credibility and dependability of assessment judgments are enhanced when supported by verifiable evidence.

Verifiable evidence

Verifiable evidence provides the justification for subjective assessment decisions made. The study asserts that construction and recording of this evidence is always mediated by technology which is an active agent within the assessment environment. It proposes that although technology has the capability to adopt a dis-intermediary/alterity role (where the human assessor is removed) in this context, it should not.

The findings of the study suggest that verifiable evidence is not objective. Participants adopt a post-positivist view of verifiable evidence which recognises that it is subjective, sensory and perceptual. However, an important feature of its verifiability is that the source of evidence e.g. its identity, social relation can be traced back to perceptions and judgments of performance. Hence, judgments are either based on the evidence or that can be justified on its basis. In addition, the range of evidence used to support judgments are from multiple sources.

Theoretical propositions

As this study adopts a case study strategy, the empirical findings of this study are not generalisable beyond the context within which they have been found. The critical realism ontology underpinning the study, theorises that these observations formed, analysed and interpreted within a different time-bound or spatial context may have been different. To this extent, I do not suggest that the study has contributed to generalisable theory. However, the study has provided deeper understanding of technology mediation theory (albeit it through observations in a specific context). In addition, the thesis adds depth and understanding of the conceptualisation of verifiable evidence and competency assessment.

8.2 Expected changes in professional accountancy and the mediating role of technology

Chapter two (Literature review) provides some historical analysis of sociological changes in professional accountancy since 1930s to the present day. Here, we have seen the profession evolve from one built very much on accounting firms/organisations providing services of compliance and assurance to society, to a profession dominated by professional service firms (PSFs) offering advisory and profit seeking/maximising services.

It is clear moving forward that as new business models continue to evolve, global markets become smaller, big data becomes more accessible, career options of aspiring professional accountants change, that the profession of accounting and therefore what determines successful accomplishment in this context will change again. The requisite capacities on which judgments about competency are made, moving forward will change. This is reflective of the transient and relational nature of competency. However, although the context in which corporations and aspiring professional accountants operate changes, arguably the values of the profession, at which “protecting the public interest” is at the core should not. The need for aspiring professional accountants to exercise moral reasoning and professional judgments does not change, even though the context in which they operate does. Therefore, the judicious criteria on which changing requisite capacities remains the same, even though within the organisation context may change. The professional capital framework is sufficiently flexible to adapt to changes in requisite capacities.

Key assessment decision makers all spoke of new, more flexible pathways into professional accounting. They also spoke of a merging between assessment domains and an integration of technology-mediated assessment environment e.g. through the use of simulation. There is a view that PAB exams will develop, adopting more situated learning pedagogy (this has started already in the profession e.g. synoptic assessment introduced by AAT at level 4 as part of AQ2016, CIMA’s integrated case study 2015 which adds “big data”). PAB assessors (n=3) suggest that they are

looking at practical experience to allow for more simulation. Academic assessors (n=6) view simulated environments as safe, collaborative spaces of learning and development.

As technology-mediated assessment environments become more integrated, the mediating role of technology in assessment will become more prominent, although participants suggest this should not be to the extent of disintermediation/alterity relations where technology replaces humans;

." I think that the nature of the accounting profession will change and I think we will see practices using much more technology in the workplace and I think that if the practice bit abandons all human review of that data, it is going to be taking a big risk because we all know that technology goes wrong sometimes." (PAB representative #4)

Even if this is not the case, another consideration is the impact big data requirements will have on the relationship between the accountant and their client. *"The client will need to have the capability to provide that data, but there will also be a big opportunity to use it for business management as well."* (PAB Representative #4)

Additionally, technology in the future may change how we think of ourselves as professionals. It has the ability to capture evidence of our experience and performance in new, dynamic and innovative ways. It may rebalance the requisite capacities needed in a professional accountant from one which focuses on functional capabilities and competencies to one that is more focused on behavioural and meta-competences. As a result, we may become more reflective, self-critical and analytical as a profession. It is important to note that technical competence will still be a requirement of the minimum threshold of performance, which is why human capital will remain an integral part of the professional capital of an aspiring professional accountant moving forward.

However, it is also noted by one PAB representative that accounting education in particular is a slow adopter of technology. This is endorsed by the fact that despite AAT implemented CBT in 2012,

other PABs have only just followed suit implementing CBT for the first time in 2015, with ICAEW planning to do so in 2017.

An important point of note, is just because the technology has the capability to perform certain actions, doesn't mean that it will actually be used to create the value that it is seemingly capable of. It is not suggested that non-use of technology in competency assessment is a bad thing at all. The appropriation of technology in IPD assessment is always, as the study has shown, very much dependent on context.

8.3 Limitations

8.3.1 Scope

The scope of this study is limited. It is UK based, rather than international and cross-sectional rather than longitudinal.

The cross-sectional time horizon following on from a global economic recession post 2008 may mean that analysis of the context in which participants are working within the profession of accountancy is distortive. It may be the case that had had the study been undertaken another time; it may have gleaned very different results. Given changes over time of the context within which organisations and professionals working within those organisations operate, it may be considered a limitation to use assessors, the majority of whom qualified over twenty years ago rather than more newly qualified assessors or current assessees, to determine what the student model should be i.e. what should be measured in practical experience assessment.

Opinions and perspectives provided by experienced assessors are informed by their historic experiences as assessees, (for some over a generation ago). Their views of what an aspiring professional accountant should be able to do are shaped by very different socio-environmental factors to those that apply today. In addition, it may be that their views are clouded by expectations that experience brings.

Additionally, assessors within the assessment environment include clients, customers, colleagues, managers, general public. Although successful accomplishment of performance has been determined as needing to be in a profession context, it is required to incorporate utilitarian principles. The scope of the study is limited to assessees and assessors and these groups are not represented.

Whilst the sample size of the purposive sample selected for the study is defended, citing Mason's (2012) comprehensive study of sample sizes against different types of research, it is of course the case that a much bigger sample size with equal representation of all PABs across both assessees and assessors interviewed, would have provided increased depth and more representative picture of the phenomenon under investigation.

Finally, the scope of the study is restricted to a UK, rather than international focus. Different pathways into professional accounting in international markets, as well as socio-cultural differences in labour structures, use of technologies and business models, means that social structures and stratified realities in an international context, may glean different research findings.

8.3.2 Research design

There are alternative research designs that could have been considered as complimentary to the study itself. Studies cited in the literature review on aspects of competency assessment such as; Fiona Anderson-Gough et al, 2000 (professionalization/socialisation/identity), Amanda Coffey, 1996 (socialisation), Mark Covalleski et al (corporate clones – mirrors work by Fogarty), Christopher Grey, 1998 (work tasks, the cull), Gerard Hanlon, 1996 (changes in professional work – labour structures), Susan Hamilton, 2013 (professional identity), Greatorex, 2005) (standardising assessor judgments) have all employed qualitative research design. However, we can see in Table 11 that these studies (with the exception of Fogarty 1992 which is a literature review), employ ethnographic, longitudinal methods. Additionally, different data collection methods have been used, ranging from

survey/questionnaire (see, Greateorex, 2005), to exploring the narratives of aspiring professional accountants (see, Hamilton, 2013).

Given the limitations in scope in terms of sample size and representation, it may have been value enhancing to employ a mixed methods approach to data collection such as interviews and survey/questionnaire (Hanlon, 1996 used survey (n=650) and interviews (n=55)

8.3.3 Generalisability

The most significant criticism of a case study strategy is the lack of generalisability (Hilderbrand et al, 2001). Bhatt (2014) explains case studies lead to a uniquely different form of generalisability; “one which is gleaned from the dialectical process of theory generation between the issues identified as salient before the research, and emergent findings in the data during the research.” (p.134)

In adopting a multiple case study design, the analysis of the data will produce situated knowledge and theory rather than generalisations (Taylor, 2002). Hence, the findings of this study are unique to the stratified realities and social structures within which the interactions that have been analysed take place. However, it has been determined that these interactions are ‘typical professional competency assessment situations.’

The critical realism ontology underpinning the study, recognises the significance of context and levels of units of analysis. For this reason, generalisable observations relating to data relating to units of data are purported to be theoretical inferences rather than generalizable theory.

It is therefore the case, whilst the findings of the study cannot fully represent the views of all UK PAB students and members, they can provide insight into social forces that can chance or re-produce social processes (Blair-Loy, 1999). “For a qualitative research community, case study concentrates on experiential knowledge of the case and close attention to the influence of its social, political and other contexts” (Blair-Loy, 1999, p.443-p.444).

8.3.4 Replication

Competency is a complex and transient concept. The mediating role of technologies is influenced by many different social factors such as time, context, socio-cultural structures, and product life-cycle. As such, the extent to which one can be reasonably sure that the findings would be replicated, even with the same participants, in the same context is questionable. The separation of storied experience and actual events, has been carried out by myself as the researcher. The process of doing this is unquestionably influenced by my own experiences, my inexperience as a researcher and personal bias. However, I have tried to employ a rigorous research design and data analysis techniques to mitigate against this, but there is inevitably intrinsic bias within the research process.

The principles that underpin critical realism suggest that social structures are relational and not fixed in time or space. The cross sectional time horizon, as well as short term over which interviews were conducted from March 2015 until August 2015. Following some critical feedback from PhD examiners, additional PAB interviews commenced June 2016 to September 2016. Even, in this short time frame, there had been changes to evidentiary requirements of some PABs that impacted on some of the findings. This demonstrates that cross sectional time horizon is a significant limiting factor, to what is a highly contextual study. The findings are specific to the stratified reality that I have explored, at a specific point in time. However, these findings may not be replicable or indicative of findings in other stratified realities, at other points in time.

8.3.5. Other

Two participants reside outside England. These participants were telephone interviewed. A further two participants were not interviewed face to face, but over the telephone.

8.4 Implications for future research

The thesis has presented technology-mediated professional competency assessment conceptual model, developed through the participatory empirical study conducted.

The proposed approach recognises that technology is an active agent that mediates the assessment environment. The study affirms contemporary theory on relational perspective of professional competency, self-interest rationales applied to its assessment and post-modernist technology theory (e.g. mediation theory). Importantly, the study explores the construction of verifiable evidence within a technology-mediated assessment environment using IPD as the case study context. This comes at a time when IES 6 implemented in July 2015, that requires competency to be assessed using “verifiable evidence” and that PABs are increasingly using technology in CBT, CBE and CBA to assess technical competence.

Another research opportunity, would be to explore technology mediation in the education (rather than practical experience context). It would be very interesting to see whether some of the themes identified in this study, would be reflected in the education study.

An obvious next step would be to pilot the technology-mediated professional competency assessment model with one of the PABs. However, this would require further endorsement of the model by IAESB, as a collective body rather than by individual representatives. A few IAESB (n=2) representatives suggested at the end of his interview that I send a report summarising the findings of the thesis to the IAESB board as a discussion document for policy reform, which I aim to do.

Implementation of the alternative competency assessment model would have an impact on all PABs, some to a greater, others to a lesser extent. It is clear that different PABs place different affordances on technology-mediated practical experience assessment. Therefore, using technology to mediate competency assessment across the profession in the way proposed in the model (see Chapter 7.3) may prove problematic in practice.

In terms of the delivery platform itself, for some e.g. ACCA the proposed change is quite radical in terms of process but not so much for requisite capacities. For others e.g. CIMA, the proposed change is not radical in terms of process but more so for requisite capacities. However, all PABs would be required to take back authority and responsibility of the competency assessment process from employing organisations in order to exercise application of the judicious criteria determining successful accomplishment. There are obvious consequences in doing this.

The changes, however, would require a shift in hearts and minds within PABs that I do not think based on my conversations those PABs interviewed would be forthcoming. A theme that emerged from analysis of the data is the power relations between organisations and PABs – each with their own self-interests to manage. It is my interpretation that PABs are very happy to relinquish control of competency assessment to organisations and would be very reluctant to take it back. Hence, the conclusion is the changes proposed by the thesis may only be considered by PABs through endorsement and most probably regulation by IFAC/IAESB.

The thesis does not suggest that PABs work against employing organisations to implement these changes. However, steps need to be undertaken to bring wider society (not just business, clients and firms) within the information ecology into a dialogue about the evidential rules of professional capital in the context of competency assessment. This is a collective, collegiate approach to try and ensure our future professional accountants encompass the values, dispositions and behaviours expected of them by wider society.

If the interests of the public are to be well served by the profession, it is important that successful accomplishment of performance within the profession is aligned to development of capital that is not just good for organisations but society as a whole. The thesis proposes that this could be achieved through development of professional capital at an individual professional level and systemised using assessment across the accounting profession by PABs. A significant barrier to this,

is that it appears PABs believe that IPD development and its assessment beyond technical competence is the responsibility of organisations.

A change to responsible pedagogy based on verifiable evidence requires extraordinary dedication and training on the part of individuals within the technology-mediated environment as well as significant regulation of what they do. Special dedication, training, knowledge and self-regulation, when institutionalised in the appropriate respects form a profession as a social entity (Willard, 2007).

Finally, a future potential area of research is the extent to which technology itself becomes a moral agent, as it adopts an increasingly embodiment role e.g. badging. In adopting embodiment roles, technology becomes less distinguishable from the other agents within the assessment environment.

8.6 Conclusion

A qualitative exploration of the perceptions, beliefs, and perspectives of a range of accounting professionals involved in and responsible for IPD, has provided multiple perspectives of the phenomenon of technology-mediated assessment. As a result, this thesis has contributed to the existing body of literature on mediation of technology, albeit in a specific professional competency assessment context. In addition, a contribution is made to the conceptualisation of verifiable evidence.

Firstly, the study establishes that technology mediates competency assessment of aspiring professionals within all specified units (assesse/assessor/IAESB) of the assessment environment. It is also concluded that technology also enables the construction of verifiable evidence on which valid judgements of professional competency can be made by third parties.

It is clear from the data analysis that technology has several different mediating roles in this context; dependent on a range of socio-environmental factors. The mediating role of technology in the

assessment environment is transient moving between hermeneutic and embodiment to alterity relations where technology is actually a dis-intermediary. Advances in technologies are likely to change the role of accountants and the context in which they work. This in turn will change what aspiring professional accountants may be required to do in practical experience assessment in the future.

The data suggests that the biggest challenge associated with using technology for the construction of verifiable evidence, at the moment is the generation gap between 'Generation X' assessors and 'Generation Y' assessees. Empirical evidence from this study shows a definite divide in affordances, values, acceptance of technologies between the two groups. The dis-enfranchisement and dis-empowerment of assessors (including PAB representatives) caused by issues relating to user capability and social structures, again leads to significant issues impacting on the construction of verifiable evidence using technology, which in turn can impact on assesses.

Secondly, it has explained how competency is assessed in a practical experience context, by different social actors within the assessment environment. Corporate practices are legitimised as professional practice and are rooted in self-interest rationales. Economic protection is often the driver for corporate practices and is used by organisations as the basis on which to determine successful accomplishment of performance in competency assessment. However, accounting professionals interviewed acknowledge (as Durkheim in 1930's wrote), that professional accounting is a moral community in which members of the profession work for the public benefit.

In order that aspiring professional accountants' performance is assessed in ways that assure the public and protect the public (rather than client) interest, it is proposed that PABs must assume control of assessment. PABs set the terms for what constitutes successful accomplishment. These terms must extend beyond 'organisational professionalism' to one where it the individual is held to account for their actions within a profession context. The thesis proposes that this done using requisite capacities of professional capital, but that the context of the organisation cannot be

ignored. It is the responsibility of the PABs to set a profession context in which successful accomplishment of performance is assessed using the 'public interest principle' whilst recognising that performance is demonstrated in an organisation context.

It is also acknowledged that each aspiring professional accountant has to take responsibility for their own professionalism. A 2015 report by ICAS entitled, "Ethics -The Power of One," highlights the need for members of the profession to demonstrate, "inner strength and moral courage needed to counter what may be major obstacles or a countervailing culture." (p.2). However, it was noted by several assessors, that this can be particularly difficult for aspiring professional accountants seeking to pass their practical experience.

Whilst IPD competency assessment is not an exact science in which competency is measured, it must adhere to principles of good, responsible assessment in order to do as it intends; to develop competent accountants who serve the public interest. This thesis proposes it is responsible pedagogy to assess IPD within a profession context and that practical experience assessment within the 'profession context' be based on 'verifiable evidence'.

An assessment approach is developed from analysis of the interview data, documentary materials and literature review. Consequently, the approach is both theory informed and empirically 'tested.' The approach recognises aspiring professional accountants as moral agents. Competency claims are to be supported and corroborated by verifiable evidence, the construction of which is constructively aligned with professional capital. Evidence accumulated is mapped to ensure a minimum performance threshold (set by PABs in collaboration with other agents within the assessment environment), is used by remote assessors to evaluate whether competency has been achieved or not.

The education and practical experience assessment domains in the proposed model are integrated through the use of technology. As a result, simulation and situated learning is embedded in the

assessment task model. It is on the basis of verifiable evidence connecting both the completion of tasks and development of professional capital, that competency is assessed. It remains the case that assessors apply their subjective evaluative judgments to make assessment decisions based on the evidence that the required standard of performance in the completion of tasks applying their professional capital has been achieved. It is clear, that there is a general belief amongst accounting professionals interviewed that technology does not adopt an alterity role, effectively becoming a dis-intermediary in this context.

Assesseees' performance of these tasks are connected with development of professional capital to determine whether the public interest has been served. Assessment is within a regulated and controlled 'profession context.' It is this is, that determines successful accomplishment of the aspiring professional accountant.

The general public expect high standards of performance of professional accountants in their practice. It is the responsibility of PABs to ensure that members admitted to the profession possess these high standards and values. IFAC (2015) notes, "Protection of public interest is the notion that public accountants need to be trusted to provide public value. Accountants will lose their legitimacy as protectors of public interest if there is no public trust."

So in concluding this thesis, I go back to my opening quotation in the introduction of this thesis that explains, "The overall objective of accounting education is to develop competent professional accountants" (IAESB, 2014, p.4). Technology has an important and significant role in this context.

The nuanced, nebulous nature of competency and its assessment, means that despite the role of technology as an active agent within the assessment environment, most accounting professionals believe it should not be a dis-intermediary. This is because subjective human judgments are also required for competency assessment. Hence, a hybrid approach to making competency assessment judgments on which verifiable evidence is based, is advocated. The mediating role adopted by

technology within the assessment environment is determined by an extensive range of non-time bound social and environmental factors.

I intend that this thesis will provide a robust platform on which future sociological research of these social and environmental factors, impacting on technology-mediation in professional accounting competency assessment may continue.

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Appendix A - Research Information Sheet – Professional accounting competency assessment project

What is the study about?

It's basically a study about competency, how to assess it, evidence it and the role of technology in this context

Some things to consider

What is competency?

Can competency be assessed on the basis of work based activities outside the workplace?

How should work based activities be designed?

How should they be assessed?

Is there a role for technology to facilitate this?

Why are you being asked to be interviewed?

You are professionally qualified accountants/responsibility for accounting education

You have experience of being assessed in the workplace for training/practical experience recording

You have experience of professional work

You have experience and an opinion of what you expect aspiring professional accountants should be able to do

You have opinions about where competency should be assessed

You have opinions about the value that you place on assessment of competency

What's next?

Have a think about what you want to do and let me know.

I have a consent form for you to complete to take part in your interview which I can forward to you.

Please bring any documentary materials relevant to your IPD training with you to interview

Appendix B - Interview consent form – please complete if you are happy to take part in an interview relating to the study.

Title of Study: Professional competency assessment of aspiring professional accountants.

Name of Researcher: Iwi Ugiagbe-Green

Please tick the box

1. I confirm that I have read and understand the research information sheet for the above study.
2. I have spoken to the above researcher and understand that my involvement will involve being interviewed at a time and place to suit me. I have had the opportunity to ask questions.
3. I understand that my participation is voluntary and that I am free to withdraw at any time. However, the researcher will ask for me to provide a reason.
4. I understand that the above researcher from the University of Leeds who is working on the project as part of her PhD
5. I understand that any data or information used in any publications which arise from this study will be anonymous
6. I understand that all data will be stored securely and is covered by the data protection act.
7. I agree to take part in the above study.

Name of Participant

Date

Signature

Appendix C – Interview schedule -Aspiring professional accountants

All - Personal/work

- 1) Male/Female? Age? Ethnic origin?
- 2) Are you a student, affiliate, member, fellow or other (please state)

Assessees

- 3) Which professional accounting body are you a student member of?
- 4) How long have you been studying professional accounting?
- 5) Are you in a relevant accounting and/or finance job/ role? (Based on requirements of your professional body)
- 6) How long have you been in your training role?
- 7) Do you have a training contract?
- 8) Do you have a qualified work place mentor?
- 9) Have you completed your practical experience requirements?
- 10) Please list a summary of work based activities that you have carried out/are carrying out as part of your practical experience requirement

Or

Please list a summary of work based activities that you carried out as part of your training contract

- 11) Are you in a Full time/part-time post?

- 12) Would you change anything about the way in which aspiring professional accountants are assessed for the purpose of professional body membership?
- 13) Do you think that the judgments about professional competency of aspiring professional accountants made by your workplace mentor/supervisor are correct?
- 14) Who should assess the professional competency of the aspiring professional accountant?
- 15) Do you think that more than one person should assess the professional competency of the aspiring professional accountant?
- 16) Do you think that professional accounting competency can only be assessed in the workplace?
- 17) Do you think that professional competency could be assessed based on work based activities outside the workplace?
- 18) Do you think that professional competency can be assessed in any other ways?

The following section asks some questions about the use of technology during your training;

- 19) How do you use technology in your work?
- 20) Do you believe that aspiring professional accountants should be able to demonstrate that they can use technology as part of their training?
- 21) What role could technologies have in assessing work based activities outside the workplace for the purpose of professional competency assessment?

- 22) What media could be used to create record and store competency evidence?
- 23) What role do you think technology could have in checking that evidence submitted as your own is actually created by you?
- 24) Do you have any other thoughts on how technology could be used as part of the professional competency assessment process?

Thank you very much for taking part

Appendix D – Interview schedule - Workplace assessors/academic assessors

The first set of questions that I am going to ask will just go through your professional accounting qualification, professional work history. If at any point you need me to repeat or clarify the question, please let me know!

All - Personal/work

- 1) Male/Female? Age? Ethnic origin?
- 2) Are you a student, affiliate, member, fellow or other (please state)

Academic & training history (*Student/Task model*)

- 1) How long have you been a qualified accountant?
- 2) Which professional institute are you a member /fellow of?
- 3) What is your experience of the assessment of the competency of aspiring professional accountants?
- 4) What is your professional position in this context and with which institute?
- 5) What do believe is the role of a professional accountant in society?
- 6) How do aspiring professional accountants demonstrate their professional competency in this context?
- 7) Where do you think the professional competency of aspiring professional accountants should be assessed?
- 8) Do you think that there are any issues regarding standards when assessing the performance of an aspiring professional accountant?
- 9) What do you think is the minimum that should be achieved by aspiring professional accountants?

- 10) Should the assessment of professional competency of an aspiring professional accountant be independent of the mentoring of the aspiring professional accountant?
- 11) Have you had experience of or heard any stories of people having their practical experience/training record signed off by a friend or people they know or having objectives signed off that they didn't actually do?
- 12) What do you think could/should have been put in place to verify records of practical performance of aspiring professional accountants?
- 13) What do you think is the role of professional accounting bodies in ensuring that evidence of professional competency of aspiring accountants is verifiable?
- 14) Do you think professional conversation between aspiring professional accountant and an independent assessor enhances the verifiability of evidence of the professional competency of an aspiring professional accountant?
- 15) What rules do you believe should be put in place in order for records of practical experience to be accepted as evidence to support the demonstration of competency?
- 16) Who should determine whether competency has been achieved by the aspiring professional accountant?
- 17) How do you think the competency of aspiring professional accountants should be assessed?
- 18) When did you know you were competent as an accountant?

What would a model of evidence based assessment look like? (*Evidence and Delivery models*)

The next set of questions is looking for you to consider how you think technology can be used to develop and assess competency of aspiring professional accountants.

- 19) What do you think is the role of technology in the assessing the competency of the aspiring professional accountant?

20) Do you consider simulated work activities e.g. audit simulation game etc. as legitimate work based activities in which aspiring professional accountants can develop professional competency?

21) Do you believe that judgements about standards of performance in relation to these types of activities be reached using technology?

Can I ask you to review the model (see below) that has developed from discussion with professional accounting community – Please provide any comments/thoughts?

Thank you very much for your time and taking part

Appendix E – Interview schedule - Professional body representatives

The first set of questions that I am going to ask will just go through your professional work history. If at any point you need me to repeat or clarify the question, please let me know!

Academic & training history (*Student/Task model*)

- 1) Are you a qualified accountant?
- 2) If yes - Which professional accounting body are you a member /fellow of?
- 3) What is your professional position in this context and with which institute?
- 4) What is your experience of assessing the competency of aspiring professional accountants?
- 5) Does your professional body/institute use a combined approach to IPD competency assessment?
- 6) How is the content for exams decided?
- 7) How does the workplace evidence requirement work?
- 8) Have you experienced any issues with workplace evidence?
- 9) How do aspiring professional accountants demonstrate their professional competency in this context?
- 10) Where do you think the professional competency of aspiring professional accountants should be assessed?
- 11) Do you think that there are any issues regarding standards when assessing the performance of an aspiring professional accountant?

- 12) What do you think is the minimum competency threshold that should be achieved by aspiring professional accountants?
- 13) Should the assessment of professional competency of an aspiring professional accountant be independent of the mentoring (workplace assessment) of the aspiring professional accountant?
- 14) How do you ensure that practical experience records submitted for assessment are verified?
- 15) How do you know that it is the aspiring professional accountant who has submitted evidence, who has actually undertaken the work?
- 16) What should the role be of professional accounting bodies in ensuring that evidence of professional competency of aspiring accountants is verifiable?
- 17) Do you think professional conversation between aspiring professional accountant and an independent assessor enhances the verifiability of evidence of the professional competency of an aspiring professional accountant?
- 18) What rules do you believe should be put in place in order for records of practical experience to be accepted as evidence to support the demonstration of competency?
- 19) Who should determine whether competency has been achieved by the aspiring professional accountant?
- 20) How do you think the competency of aspiring professional accountants should be assessed?
- 21) When did you know you were competent as an accountant? (If applicable)
- 22) Do you believe that a professional accountant is an independent professional or an advocate of the profession?

23) What do you think an aspiring professional accountant should be required to be able to do at the end of IPD in order to be accepted as a member?

What would a model of evidence based assessment look like? (*Evidence and Delivery models*)

The next set of questions is looking for you to consider how you think technology can be used to develop and assess competency of aspiring professional accountants.

24) What has been the experience of CBT been like?

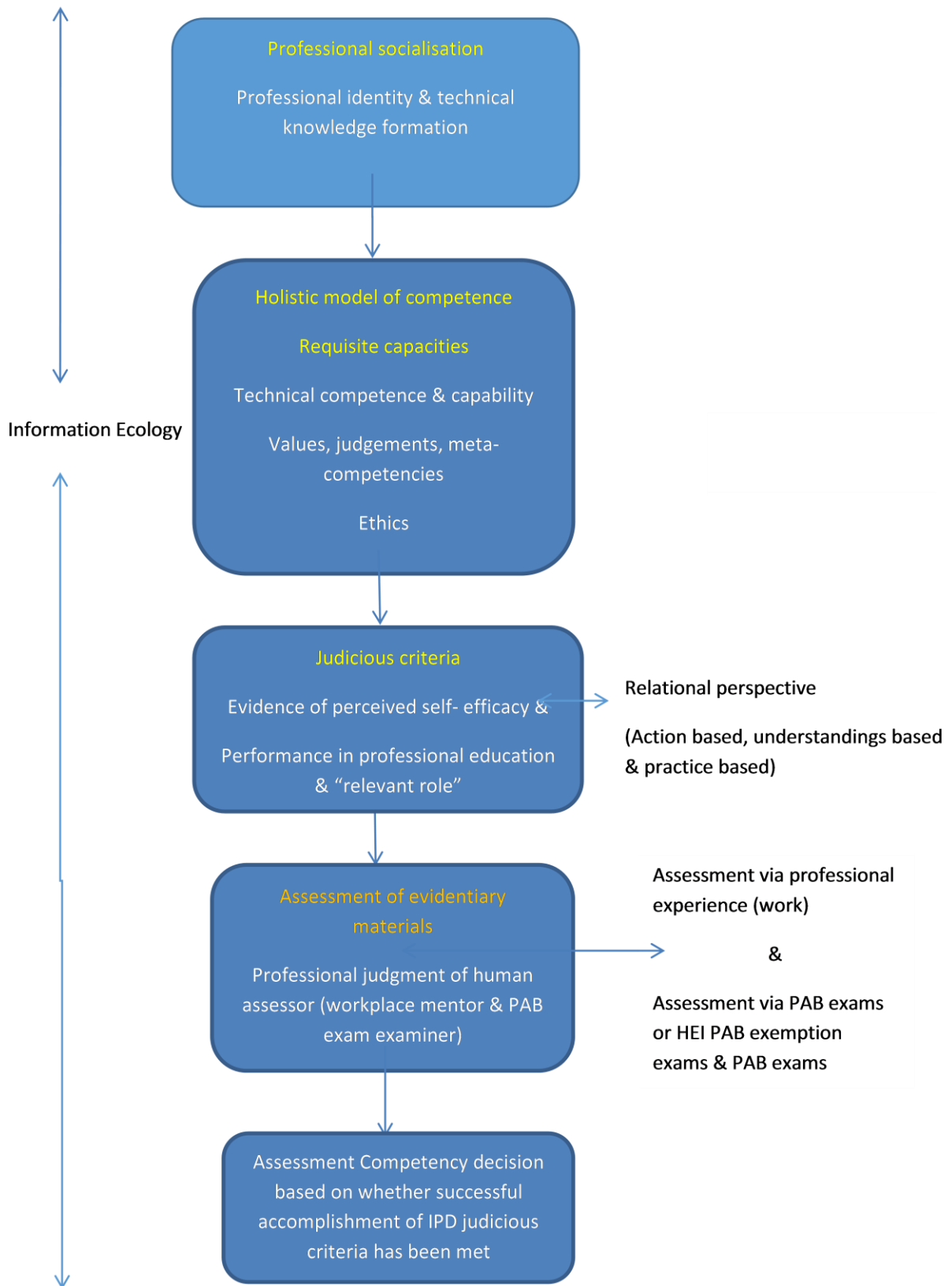
25) Do you think case based projects/case studies will be assessed by a computer in the future?

26) Do you believe that sound judgements about standards of performance in relation to these types of activities is reached using technology?

27) What do you think is the role of technology in the assessing the competency of the aspiring professional accountant?

Can I ask you to review the model that has developed from discussion with professional accounting community – please provide any comments/thoughts?

3.5.7 Fig. 20 Initial theoretical framework of IPD professional accounting competency assessment (without technology)



Appendix F – Interview schedule - IAESB representatives

This stage of my study is to investigate the following;

- Are all elements of professional competency covered here? Are there any omissions?
- How should professional competency of aspiring professional accountants be assessed?
- How should performance be evidenced?
- What role should technology have in assessing professional competency of aspiring professional accountants?

The first set of questions that I am going to ask will just go through your professional accounting qualification, professional work history. If at any point you need me to repeat or clarify the question, please let me know!

Academic & training history (*Student/Task model*)

- 1) How long have you been a qualified accountant?
- 2) Which professional accounting body/institute are you a member /fellow of?
- 3) What is your experience of the assessment of the competency of aspiring professional accountants?
- 4) What is your professional position in this context and with which institute?
- 5) Do you believe that an accountant is an independent professional or an advocate of the profession?
- 6) How do aspiring professional accountants demonstrate their professional competency in this context?

- 7) How do you think aspiring professional accountants are assessed in this context?
- 8) Where do you think the professional competency of aspiring professional accountants should be assessed?
- 9) Do you think that there are any issues regarding standards when assessing the performance of an aspiring professional accountant?
- 10) What do you think is the minimum competency threshold that should be achieved by aspiring professional accountants?
- 11) Should the assessment of professional competency of an aspiring professional accountant be independent of the mentoring of the aspiring professional accountant?
- 12) Have you had experience of or heard any stories of people having their practical experience/training record signed off by a friend or people they know or having objectives signed off that they didn't actually do?
- 13) What do you think could/should have been put in place to verify records of practical performance of aspiring professional accountants?
- 14) What should the role be of professional accounting bodies in ensuring that evidence of professional competency of aspiring accountants is verifiable?
- 15) Do you think professional conversation between aspiring professional accountant and an independent assessor enhances the verifiability of evidence of the professional competency of an aspiring professional accountant?
- 16) What rules do you believe should be put in place in order for records of practical experience to be accepted as evidence to support the demonstration of competency?

17) Who should determine whether competency has been achieved by the aspiring professional accountant?

18) How do you think the competency of aspiring professional accountants should be assessed?

19) When did you know you were competent as an accountant?

What would a model of evidence based assessment look like? (*Evidence and Delivery models*)

The next set of questions is looking for you to consider how you think technology can be used to develop and assess competency of aspiring professional accountants.

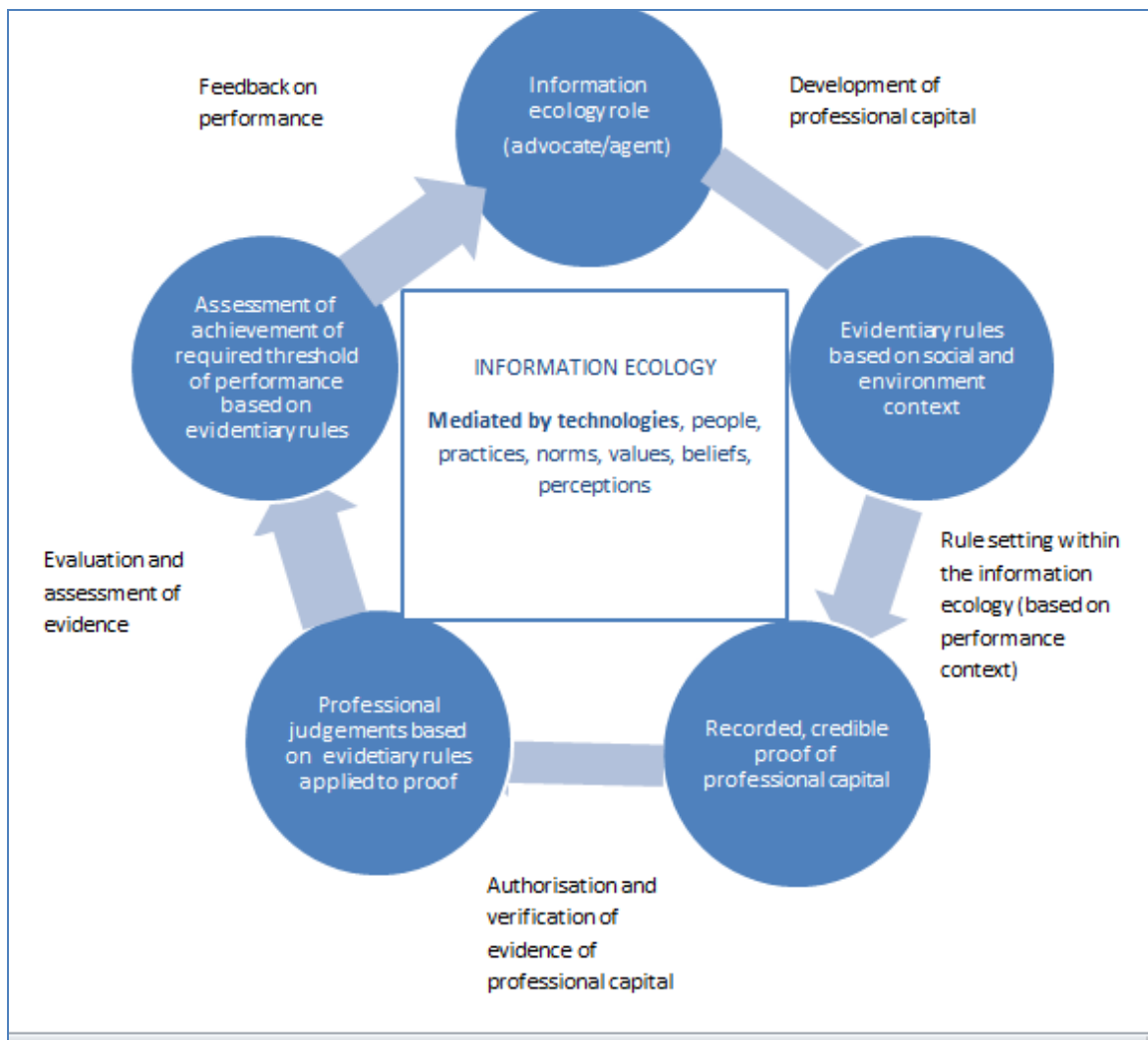
20) What do you think is the role of technology in the assessing the competency of the aspiring professional accountant?

21) Do you consider simulated work activities e.g. audit simulation game etc. as legitimate work based activities in which aspiring professional accountants can develop professional competency?

22) Do you believe that judgements about standards of performance in relation to these types of activities be reached using technology?

Can I ask you to review the model that has developed from discussion with professional accounting community – Please provide any comments/thoughts on the model below?

Thank you very much for your time and taking part



Discuss for example, professional capital - thoughts on human capital/decisional capital / social capital – what & how to assess - Is this appropriate?

Example of proposed change to current approach – less task focused and more focused on values, beliefs etc. e.g. in acting as advocate for client and society (check how aspiring professional verified the integrity of the information used to put the accounts together - rather than focus on completion of accounts on the basis that this is fundamental, assessed in the exams and is evidenced as an artefact in any event)

Thoughts on plugging into existing appraisal systems – using performance reviews/appraisals as evidence of tasks completed but more emphasis on validation and reflection through professional conversation?