



The
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**Towards the Advancement of Thinking Skills
in
Two Maltese Kindergarten Schools**

By:

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Abstract

Literature indicates that amid the current pressure on Early Childhood Education and Care to serve as a preparatory phase for formal education, preschool curricula are dominated by the acquisition of subject matter. Ticking checklists related to academic content are taking centre stage, sidetracking among other things, the cultivation of thinking skills.

Malta is no exception and although national policies promote thinking skills, everyday practice reveals a different picture as academic content is still prioritised. In view of this scenario, as a curriculum leader of two kindergarten schools, I conducted insider research to explore how three and four-year-old children, within their particular culture and context, can be enabled to foster and advance their thinking skills. Drawing on sociocultural theoretical concepts, a process of change was set in motion through an intervention that modified pedagogical practices, interactions, strategies of knowledge acquisition and curriculum using the project approach to an inquiry-based pedagogy.

Positioning the research within the interpretivist paradigm, a small-scale multiple case study involving four kindergarten settings was designed in three stages. It started by eliciting the views of the Headteacher, as leader of both schools. In the second stage, four case studies were conducted, each focusing on a particular setting. Each case study initiated by focusing on gaining an informed understanding of the situation and subsequently, a workshop was held with the educators in preparation for the intervention. As a third step, a project was explored, based on the children's emerging inquiries and working theories. Through relational pedagogy, meaningful dialogues, co-construction and an emergent and inquiry-based curriculum, the children applied thinking skills associated with information-processing, problem-solving, critical thinking, creative thinking and metacognition. The views of the educators and the Headteacher were again sought at the end of the projects.

The purposive sample consisted of the Headteacher, nine educators and sixty-seven children. Interviews, focused conversations and observations were the research methods selected for data collection. Cross-case analysis was implemented at two points of the multiple case study in order to produce a multi-case report for the presentation and interpretation of the findings. The analysis is illuminated with episodes drawn from the four case studies and insights from the reflective journal kept throughout the research.

The findings constitute a promising indication that thinking skills can be fostered in this particular context. However, they also reveal various complexities that may hinder the course towards an authentic implementation of a pedagogy of thinking. Implications and recommendations are offered with the intention of bridging the gap between theory, policy and practice.

Keywords: Early Childhood Education, Malta, thinking skills, insider research, sociocultural theory.

To
my family

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Abbreviations

AGDoE	Australian Government Department of Education, Employment and Workplace
DfE	Department for Education
DLAP	Directorate for Learning and Assessment Programmes
DQSE	Directorate for Quality and Standards in Education
ECE	Early Childhood Education
ECEC	Early Childhood Education and Care
EPPE	Effective Provision for Preschool Education
EYFS	Early Years Foundation Stage
EYFSP	Early Years Foundation Stage Profile
EYLF	Belonging, Being and Becoming: The Early Years Learning Framework for Australia
FC	Focused Conversation
IBL	inquiry-based learning
IELS	International Early Learning Study
KG1	Kindergarten 1
KG2	Kindergarten 2
KGEs	Kindergarten educators
LOF	Learning Outcomes Framework
MEDE	Ministry for Education and Employment
MoE	Ministry of Education
MKO	More Knowledgeable Other
MUT	Malta Union of Teachers
NCF	National Curriculum Framework for All
NMC	National Minimum Curriculum
OECD	Organisation for Economic Co-operation and Development
OfSTED	Office for Standards in Education
RBA	Reception Baseline Assessment
REPEY	Researching Effective Pedagogy in the Early Years
STA	Standards and Testing Agency
UNCRC	United Nations Convention on the Rights of the Child
ZPD	Zone of Proximal Development

Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not been previously presented for an award at this, or any other, university.

Signed:

Dated: 22nd October 2019

Chapter 1: Introduction

1.1 Introduction to Chapter

This thesis unravels the journey that I embarked on in 2015 full of enthusiasm, unaware of what it entailed, driven by my ambition to gain an informed understanding of the pedagogical approaches through which thinking in three and four-year-old children can be cultivated within the Maltese context. It encompasses the “pitfalls, insights and diamonds” (Brydon & Fleming, 2011, p. 1009) that characterised my journey from the initial readings, reflections and unconscious assumptions to the new insights that it generated at its completion.

This chapter provides an overview of the thesis. It initiates with its outline and proceeds to define its theoretical foundations, its area of study focus and the context in which it was conducted. Following these definitions are the research aims and subsequently, the research questions that were drawn up to guide the inquiry. Afterwards, I explain the reasons that have inspired me to undertake this research and proceed to discuss the rationale, gap in knowledge and statement of purpose. Subsequently, I present the research questions and the study’s contribution to knowledge. The final section of this chapter consists of a brief synopsis of the structure of the thesis.

1.2 Outline of the Thesis

This thesis is based on a small-scale interpretative multiple case study of children’s thinking processes in four Maltese kindergarten settings. I conducted insider research while being the curriculum leader of these four settings. I sought to achieve an informed understanding of how thinking skills can be fostered in three and four-year-old children during the two kindergarten years within this particular context. Grounding this research on sociocultural theoretical principles that consider concept formation as being influenced by everyday practice,

it was appropriate to get immersed in the daily practice of the settings (Vygotsky, 1978). Prolonged engagement enabled me to sharpen my insight on the existing situation and subsequently draw on sociocultural theoretical concepts to design an intervention aimed at initiating a transformative process to create an optimal learning environment for the advancement of thinking skills in kindergarten children.

Underpinning this study are three key principles. The first one is that social interaction is fundamental to cognitive development (Bruner, 1966; Dewey 1916; Vygotsky, 1978, 1986). The second one is that early childhood is an exceptional phase in life recognised by rights and characterised by remarkable holistic growth, which requires an education that respects the potential and the agency of the child rather than serving as a preparatory period for future living (Murray, 2018b; Robson & Flannery Quinn, 2015). The third one is the consideration of the child as “rich in potential, strong, powerful, competent, and, most of all, connected to adults and other children” (Malaguzzi, 1993, p. 10).

Accordingly, the intervention applied in this research considered the child as a competent thinker, born with the potential to wonder, discover and learn from experiences (Hedges & Cooper, 2014). Grounded on the project approach to an inquiry-based pedagogy (Katz & Chard, 2000), it respected, celebrated and strengthened the child’s thinking processes within an enabling environment that capitalises upon relationships (Papatheodorou, 2009) and promoted collaborative co-construction of new meaning (Jordan, 2009; Rogoff, 1990). The environment created in the settings enabled the children to address their immediate inquiries rendering learning relevant, useful and exciting in the eyes of the child (Ephgrave, 2018).

Cognizant of the role of the educator in creating this enabling environment (Sommer, Pramling & Hundeide, 2013), this research brings to the forefront the challenges faced by the

participant educators, which were impeding the enrichment of the children's thinking skills. The rich descriptions of the educators' views collected during the focused conversations [FC] (Clough & Nutbrown, 2012), elucidate the progressive shift in the perceptions of the educators on children's thinking potential as a result of the changes in the learning environments.

I am in support of Leithwood, Harris and Hopkins (2008, 2019) in their claim that school leadership has an indirect influence on learning and teaching and thus, has to ensure that the necessary structural provisions are established for these to flourish. In line with this assertion, the Headteacher was the third stakeholder to be included in this study. Two interviews were conducted with her; the first one held during the first stage and aimed at eliciting her views on thinking skills in early childhood. The second one was conducted after the completion of the projects. It had the purpose of getting the Headteacher's views on the projects by sharing with her the changes to practice that were effected and how they have cultivated thinking skills in the children.

The case study design was selected as I was after achieving a deep understanding of the studied phenomenon, seeking to generate thick descriptions (Yin, 2009). Nevertheless, I have to clarify that I conducted this study at my workplace while I was Deputy Headteacher. The reasons behind this decision are briefly discussed later on in this chapter. Subsequently, they are debated in detail in the research methodology, where I acknowledge the potential limitations associated with the case study design, insider research and positionality and follow the criteria found in the literature to minimise them (Atkins & Wallace, 2012; Bassey, 1999; Guba, 1981). As I shall explain later on, a rigorous search for local research on the cultivation of thinking skills in early childhood did not yield any results. Thus, up to my knowledge, this is the first study on the advancement of thinking in kindergarten settings within the Maltese context. Notwithstanding its limitations, it adds to the international literature on the area of study and

contributes to the local literature on early childhood education and care [ECEC] by offering new insights into the pedagogical practices which support the advancement of thinking processes in kindergarten settings.

1.3 Defining the Theoretical Foundations

This thesis is located within sociocultural theory and its theoretical foundations are underpinned on the writings of Lev Vygotsky (1978), John Dewey (1916) and Jerome Bruner (1966). It recognises that learning is affected by the historical cultural context in which it occurs (Vygotsky, 1978). Moreover, it advocates that learning is generated through social interactions with the implementation of mediation and psychological tools (Lantolf, 2000). Central to this thesis is the construct of the ‘Zone of Proximal Development’ [ZPD] in which learning is facilitated through mediation by a ‘More Knowledgeable Other’ [MKO] (Vygotsky, 1978). These principles are debated in detail in the literature review.

1.4 Defining the Area of Study: Thinking Processes in Three and Four-Year-Olds

Thinking may appear to be a spontaneous and easily accomplished task that forms part of the human inherent nature (Shonkoff & Phillips, 2000; Trevarthen & Delafield-Butt, 2015). In everyday parlance, the verb ‘to think’ is very commonly used. Referring to the English language, the *Oxford English Dictionary* (OED Online, 2019), categorizes the verb with other semantic words that constitute the foundation of the common language such as ‘man’ and ‘day’. Yet, thinking is complicated and multifaceted as can be deduced from its description given by Ritchhart, Church & Morrison (2011):

Thinking doesn't happen in a lockstep, sequential manner, systematically progressing from one level to the next. It is much messier, complex, dynamic, and interconnected than that. Thinking is intricately connected to content; and for every type or act of thinking, we can discern levels or performance.
(p. 8)

Thinking, under its many facets, is a process that continuously features among the competences and skills identified as crucial for 21st century social well-being and advancement in international reports (International Bank for Reconstruction and Development/ The World Bank (2019); Organisation for Economic Co-operation and Development [OECD], 2018a; The Council of the European Union, 2018/ C 189/01). As for all the other areas of learning, its foundation is laid in early childhood as this is the life phase characterised by remarkable brain development and during which the basis of all subsequent learning is emplaced (Marope & Kaga, 2015). In this thesis, the focus is on thinking processes during two particular years of early childhood; when the children are three and four years old. In Malta, kindergarten is the education provision offered to this age group. Thus, for ease of reference to these two specific years, the terminology ‘KG-aged children’ will be used from this point onwards to denote this age group.

The literature on thinking in early childhood argues that KG-aged children should be given ample opportunities to cultivate thinking processes and dispositions (Robson & Flannery Quinn, 2006; Taggart, Ridley, Rudd & Benefield, 2005; Wallace, 2002). While the scholars who draw on cognitive constructivism, such as Atherton and Nutbrown (2016), contend that the child is stimulated to learn from within, other scholars who embrace a sociocultural perspective, for instance, Peters and Davis (2015) and Hedges (2014) assert that curriculum and pedagogy are crucial for learning. I concur with the second theoretical position as I hold the standpoint that within a supportive learning environment, KG-aged children can be enabled to cultivate and strengthen their thinking. Consequently, this thesis is located within sociocultural theory.

1.5 Thinking Processes in KG-Aged Children in the International Context

The stance in favour of strengthening thinking in KG-aged children found in the literature is reflected in several ECEC curricula and frameworks worldwide. To mention a few, the Welsh *Foundation Phase Framework* (Welsh Government, 2015), Northern Ireland's curriculum for the foundation stage (Council for the Curriculum Examination and Assessment, 2019) and the Finnish *National Core Curriculum for Early Childhood Education and Care 2018* (Finnish National Agency for Education, 2019) recommend that thinking skills have to be cultivated across the other curriculum areas and play. The Australian *Belonging, Being and Becoming: The Early Years Learning Framework for Australia* [EYLF] (Australian Government Department of Education, Employment and Workplace [AGDoE], 2009), for example, identify thinking skills as general capabilities that need to be fostered by children and England's *Statutory Framework for the Early Years Foundation Stage* [EYFS] (Department for Education, [DfE], 2017) associates thinking with effective learning. Another example is New Zealand's *Te Whāriki* (Ministry of Education, [MoE] 2017), in which thinking skills are specifically associated with exploration and educators are encouraged to give the children multiple opportunities to pursue their working theories.

As will be debated in the Policy Review, the acknowledgement of the value of thinking in these frameworks may give the impression that it is being given considerable attention in actual practice in all of these systems but this is not the case. Much depends upon the type of assessment that early childhood educators are then expected to use in their settings. For instance, in New Zealand where ECEC policymakers advocate in favour of formative assessment based on meaningful contextualised experiences, the children have ample opportunities to cultivate their thinking potential (Niles, 2015). This is evinced by research which verifies that thinking is cultivated in such empowering environments (Hedges & Cooper, 2018).

However, in other countries, which favour a culture based on accountability and standardised assessment measures, KG-aged children may have far fewer opportunities to foster thinking skills and dispositions since the focus of such assessments is on the acquisition of content. A case in point is England in which ECEC policymakers intend to launch an early years baseline assessment to assess children in the first six weeks of the reception class on Mathematics, Communications and Language competences (Standards and Testing Agency, 2019). This narrow choice of competencies identified for this assessment demonstrates that these areas seem to be the ones which are most valued among the seven areas of learning identified in Early Years Foundation Stage Profile [EYFSP] 2019 handbook (Standards and Testing Agency, [STA], 2018). Although thinking skills and processes are mentioned in the Reception Baseline Assessment framework [RBA] (STA, 2019), they are strictly related to mathematics and language. The document argues that the cognitive potential of the children will come to light through the linguistic and mathematical skills the children will use throughout the test. As will be argued in this thesis, the thinking potential of young learners go beyond mathematical and language skills and can be observed in curricular activities far more appropriate for their age than standardised testing. Thus, it is indeed not a surprise that ECEC experts, educators, parents and even four-year-olds in England are condemning and opposing this initiative as they have already demonstrated in the ‘March of the Four Year Olds’ in Downing Street on the 25th of April 2019 (British Educational Research Association, 2019).

The current resurgence in favour of prescribed curricula and assessments in ECEC that focus principally on the acquisition of the three Rs is fuelled by the strategy developed by OECD to introduce a universal assessment tool for five-year-old children (Bates, 2018; Roberts-Holmes & Bradbury, 2017). This tool which forms part of the International Early Learning Study [IELS] (OECD, 2019) has already been trialled in England, Estonia and the United States. OECD

(2018b), in its pilot study report, interprets the high rate of participation from children, parents, educators and schools as a sign that such early assessments are desired by all stakeholders.

However, I concur with Auld and Morris (2019) that although the ultimate result of this study is yet ambiguous, its chief focus will be on literacy and numeracy skills, ignoring the other aspects of learning in order to serve the interests of the economy, which may be disguised as interests of young children.

1.6 Defining the Context for the Study: The Maltese Kindergarten Setting

The research for this study was conducted in two Maltese small kindergarten schools, each having two settings. A brief overview of the Maltese ECEC system is provided in this section to enhance understanding of the local context.

The Maltese islands form an archipelago in the middle of the Mediterranean Sea and have been inhabited since prehistoric times (Thake, 1994). According to the Maltese National Statistics Office (2019), the population consists of half a million inhabitants. Throughout the centuries, Malta had been conquered by an uninterrupted series of supremacies, the last foreign rulers being the British, from whom independence was obtained in 1964. In 1974, Malta became a Republic and thirty years later, in 2004, it became a European Union member state.

Although there is no official documentation that stipulates the introduction of educational provision in Malta for KG-aged children, the history of some religious orders such as the Franciscan Sisters of the Heart of Jesus demonstrates that it was set up in the late 1800s (Calliari, 2010). Since this provision offered by Church schools was against payment, most children were kept at home to be reared by their mothers, who were predominantly housewives and responsible for the upbringing of their children (Ministry for Education and Employment [MEDE], 2006).

Free public kindergarten provision was established by the government in 1975 with the opening of Kindergarten 2 [KG2] classrooms for four-year-old children and in 1988, free Kindergarten 1 [KG1] provision for three-year-olds was also initiated (MEDE, 2013b). Following the 1991 agreement between the Holy See and the Republic of Malta, the Maltese Archdiocese removed church schools' fees and established a ballot system as the process through which all children could gain entry into its schools (Acta Apostolicae Sedis, 1993). Eventually, small private kindergarten centres started to offer their services and served as an alternative to those parents who did not want to educate their children in the state sector but did not succeed to register their children in a church school (MEDE, 2006).

At present, the kindergarten years form part of the current ECEC structure that gathers under its umbrella the provision offered to children from three months to six/seven years as summed up in Figure 1.1. Recent national statistics data indicate that during the scholastic year 2016-2017, 9,224 children attended kindergarten schools across the three sectors (NSO, 2019). In 2019, attendance in kindergarten schools is still non-compulsory. Yet, aims and outcomes for the kindergarten years are still outlined in Maltese policy documents (MEDE, 2012; Directorate for Quality and Standards in Education [DQSE], 2015). Since such documents promote the cultivation of thinking in KG-aged children, this study shall provide more understanding and knowledge about how thinking processes can be fostered in this age group within the local context.

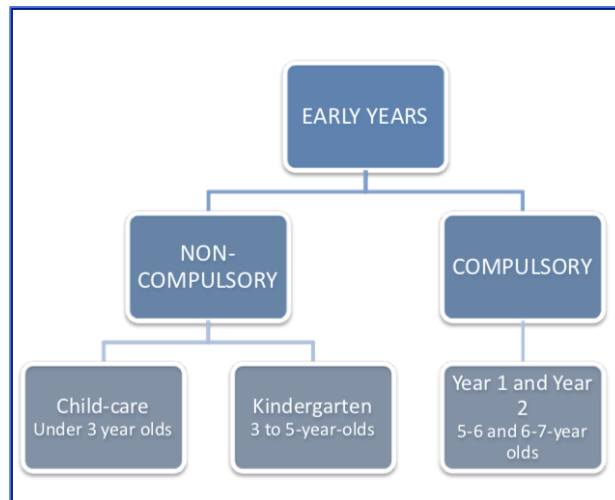


Figure 1.1: Early childhood education and care (MEDE, 2013b, p. 18)

1.7 Thinking Processes in KG-aged Children in the Local Context

This section consists of a brief overview of the focus of study as it is situated within the local context. It helps to further locate the study and to elucidate the importance of conducting such research within the Maltese context.

The *National Minimum Curriculum* [NMC] (MEDE, 1999) was the first curriculum in Malta and it equated early childhood education [ECE] with the two kindergarten years. The NMC (MEDE, 1999) promoted the cultivation of thinking processes by linking them to intellectual development and stipulated that:

At this level, the Curriculum should stimulate curiosity, exploration, experimentation and the creative use of resources provided by the school. This should enable children to learn how to solve problems, understand better the relationship between cause and effect and prove capable of planning their own learning.
(p. 72)

This objective was translated into five targeted aims, which consisted of the development of metacognition, problem-solving, logical thinking, mathematical concepts, verbal

communication and writing. As can be deduced only three of these aims were related to the main objective. The document that was published subsequently, *Guidelines and Suggestions for the Implementation of the Curriculum in Kindergarten* (Attard, 2002) aimed at supporting kindergarten educators [KGEs] in the application of the NMC (MEDE, 1999). It continued to lessen the focus on thinking processes as most of its recommendations for intellectual development targeted numeracy and literacy skills.

The prioritisation of academic content was still present in 2006 when the first policy document that focused solely on ECEC was published. *Early Childhood Education and Care: A National Policy* (MEDE, 2006) extended the perception of ECE to include the care element, emphasising it as an exclusive but a complementary pillar to education. The policy recognised that kindergarten services were still viewed by society in general as a foundation period for Year 1 and thus, recommended comprehensive curricular programmes that meet the needs of all areas of development through experiential learning. There was no direct reference to thinking processes in this document.

In 2012, the present *National Curriculum Framework for All* [NCF] was launched, identifying three educational cycles, the first being the “Early Years Cycle” (MEDE, 2012, p. 11) that encompasses the two kindergarten years and the first two compulsory years; Year 1 and 2. The NCF (MEDE, 2012) compares the early years to “a journey of discovery where children find out who they are as individuals and position and establish themselves within a society as they interact with others” (p. 48).

For the first time, thinking in the Early Years Cycle was given utmost importance. In the framework, intellectual competences and learning dispositions are two of the five competencies on which the five learning outcomes are based. Figure 1.2 illustrates the five learning outcomes

as explained in the NCF (MEDE, 2012). Thinking is crucial for the attainment of three outcomes: Outcome 1, Outcome 2 and Outcome 5. For the first two outcomes, the child needs to foster metacognitive skills in order to persevere in the face of challenge, feel confident and take risks. For the fulfilment of the fifth outcome, the child needs to nurture all the categories of thinking found in the literature on thinking in ECEC, which are problem-solving, critical and creative thinking, information processing and metacognition (Fisher, 1999). The framework suggests formative assessment presented in the form of a report to show the child’s progress and development in each outcome.

<p>EARLY YEARS OUTCOME 1: Children who develop a strong sense of identity</p> <ul style="list-style-type: none"> • Children who develop in a safe, secure environment which they can trust and where they feel comfortable to express themselves. • Children who have a sense of independence and autonomy. • Children who are responsible and resilient in the face of challenges. 	<p>EARLY YEARS OUTCOME 4: Children who are effective communicators</p> <ul style="list-style-type: none"> • Children who are capable of using different forms of and media for communication. • Children who interact and engage with varieties of text and printed material increasing their awareness of purposes/ functions. • Children who are familiar with symbols and patterns and their use. • Children who are aware of different language systems, notably L1 and L2. • Children who engage with digital literacy as a means of retrieving data as well as representing and communicating ideas. • Children who are versatile with the use of numbers, data handling, shapes and measurement and print in context as a means of production of knowledge and information as well as meaning making and comprehension.
<p>EARLY YEARS OUTCOME 2: Children who have a positive self-image</p> <ul style="list-style-type: none"> • Children who believe in themselves fully aware of their potential and capabilities. • Children who have confidence in themselves and their achievements. • Children who have positive attitudes which enable them to take the initiative and become risk-takers. 	<p>EARLY YEARS OUTCOME 5: Children who nurture positive attitudes towards learning and become engaged and confident learners</p> <ul style="list-style-type: none"> • Children who have a range of cognitive skills including labelling/identifying, recognition, sorting, hypothesising, predicting, comparing, sequencing, grouping. • Children who have positive dispositions including enthusiasm and motivation, curiosity, questioning, concentration, perseverance, imagination, ability to accept alternative suggestions/criticism. • Children who have the motivation to broaden their knowledge and reinforce their understanding through availability of and access to various sources of information.

Figure 1.2: The five early years learning outcomes in the NCF (MEDE, 2012, p. 49-50)

Three years later, the *Learning Outcomes Framework* [LOF] (DQSE, 2015) was issued as a toolkit for the KGEs to design curriculum programmes that would lead the learners to master the learning outcomes in the NCF (MEDE, 2012) (Figure 1.2). The document presents lists of related achievements for each of the learning outcomes that KG-aged children need to grasp. With regards to thinking, the achievements reflect the cultivation of all the areas of thinking mentioned above. The LOF (DQSE, 2015) states that inquiry-based learning [IBL] should guide pedagogy and authentic assessment should be practised in kindergarten.

Albeit MEDE launched the *Design of Learning Outcomes Framework, Associated Learning and Assessment Programmes* (MEDE, n.d.) in 2015, its implementation came in force in the scholastic year 2018-2019 and for only three year groups, including KG1 (Directorate for Learning and Assessment Programmes [DLAP], DLAP 054/2018). However, DLAP within MEDE still deduced that the KGEs within state schools needed thorough training (DLAP 281/2018). This may be one of the reasons why during the first scholastic year of the LOF's (DQSE, 2105) implementation, DLAP (Government of Malta, 2015) still offered the educators the guidelines prepared by Attard (2002) and expected them to fill in its related report for assessment.

Thus, it can be deduced that even though the policies, which have been there for quite some years now, advocate in favour of cultivating thinking skills in children through meaningful experiential learning, in reality, this may not be taking place. As long as assessment reports continue to consist of checklists dominated by numeracy and literacy skills, KGEs will continue to base their programmes upon those. The same applies to the KGEs who work within Church schools. During the scholastic year 2018-2019, these KGEs were still expected by their authorities to focus predominantly on enabling children to grasp literacy and numeracy skills. At the end of the same scholastic year, they were still expected to fill in assessment reports that are

also based on the guidelines by DLAP (Government of Malta, 2015). Training for KGEs in Church Schools depends on the initiative of their Headteachers. Independent schools adhere to the same policies as well. Such contextual situation continues to increase the relevance of this research since, at the moment, there is lack of coherence between the policies which are promoting the cultivation of thinking process and the assessment reports which, on the other hand, put pressure on the KGEs to concentrate mainly on literacy and numeracy development.

Till the end of the scholastic year 2018-2019, the guidelines written by Attard (2002) seventeen years ago were still the official recommendations that MEDE provided for Maltese ECEC educators on its website (Government of Malta, 2015). The same applied for the assessment checklists that were used until the end of the same scholastic year (Government of Malta, 2015). Prior to the start of the scholastic year 2019-2020, an early years website was in the process of being set up (Government of Malta, 2016). At the time of completion of this thesis, the website featured only the dates of the training sessions for senior management, education officers and early years educators for the state sector (Government of Malta, 2016). Thus, there were no documents related to the actual implementation of the LOF (DQSE, 2015) and assessment.

1.8 Impetus to Conduct the Research

In my previous professional role as Deputy Headteacher, I was the curriculum leader of two Church kindergarten schools. In the first years of my appointment, I became increasingly aware of the huge discrepancy between the curriculum programmes and what was written in mandated policy documents with regards to the fostering of thinking skills in young children. The programmes were planned according to the assessment reports and schemes issued by authorities. Ironically, these documents were not in line with the learning outcomes of the NCF (MEDE, 2012) since they were highly structured on literacy and numeracy content knowledge.

As a result, the programmes were not advancing children's thinking. Thus, I decided to embark on this doctoral journey in order to get an enlightened understanding of how thinking skills can be cultivated in young children and gradually activate a course of action that would lead towards the fulfilment of such purpose. My positionality is further discussed in the methodology chapter.

1.9 Rationale, Gap in Knowledge and Statement of Purpose

The rationale for this study stems out of my impetus to explore how thinking skills can be fostered in KG-aged children in the Maltese context. A rigorous search indicated that no local research has so far been conducted on the cultivation of thinking processes in KG-aged children in the local context. This may be due to the fact that research on ECEC in Malta is still very scant (MEDE, 2006; MEDE, 2013b).

Consequently, in order to address this substantial gap in knowledge, I decided to conduct this research with the purpose of critically evaluating the implementation of an intervention, which used the project approach to an inquiry-based pedagogy. Since I was after initiating a transformative process within two specific kindergarten schools, I decided to conduct insider research.

1.10 Research Questions

My intention was to explore how KG-aged children can be enabled to cultivate their thinking processes in the Maltese context by focusing on two particular kindergarten schools. To illuminate the problem, two research questions were devised, the first one being the following:

- a. What practices currently exist to cultivate thinking skills in these learners?

This question was sought to refine my knowledge of the existing ways in which the educators were stimulating thinking processes in children. The second research question directing my inquiry consisted in:

- b. How and in what ways has the intervention, which used the project approach to inquiry-based pedagogy advanced the thinking skills of these learners?

This question aimed at understanding how and in what ways the intervention advanced the thinking potential of the children. In order to achieve deeper insight, I addressed this research question from two different perspectives. Consequently, the inquiry was guided by two subsidiary questions:

- i. How were the pedagogy, interactions, acquisition of new knowledge and curriculum practices transformed in the settings in order to advance the thinking skills of the learners?
- ii. In what ways have the learners demonstrated that the intervention has advanced their thinking skills?

The first sub-question focused on the ‘how’ aspect of the second research question. The conceptual framework formed by the theoretical constructs that emerged from the literature based on sociocultural theory (Vygotsky, 1978) constituted the foundation of this research question. As regards the second sub-question, the focus was on the ‘in what ways’ aspect of the second research question. In answering this question, I wanted to provide concrete examples of how the children used their thinking processes while pursuing their inquiries. The nature of these research questions informed the choice of the case study approach as research design.

1.11 Contribution to Knowledge

The chief purpose of conducting research is that of adding new understandings to the existing body of knowledge (Winter, Griffiths & Green, 2000). Primarily, this small-scale multiple case study makes an original contribution to the Maltese ECEC literature since, up to my knowledge, this is the first study of its kind in this context. It provides new insights on how thinking in young children can be fostered in a cultural scenario in which the notion of the

kindergarten as a preparation for formal education still prevails among educators and the society in general (Sollars, 2018). It has potential practical application since its conceptual framework can support local ECEC educators and school leaders who, like me, are aware that the existing practices may be restraining the thinking potential of KG-aged children and aspire to launch a process of pedagogical change in which understanding based on experience is prioritised over decontextualized instruction.

This research also adds to the international literature on the cultivation of thinking in young children from the Maltese perspective. It may contribute towards international research on the cultivation of thinking in KG-aged children grounded on sociocultural theory.

1.12 Structure of the Thesis

The following chapter consists of the review of the literature, which initiates with a discussion of sociocultural theory (Vygotsky, 1978). It proceeds to debate the literature on thinking, narrowing down the focusing on ECEC. Subsequently, the theoretical constructs drawn from the literature are redefined with the intention of applying them to my area of inquiry.

Chapter 3 consists of a policy review intended to complement the literature review with a critical analysis of the relationship between theory, research and policy. I draw on the NCF (MEDE, 2012) and the LOF (DQSE, 2015) as national policies. In addition, I refer to England's EYFS (DfE, 2017) and EYFSP (STA, 2018), Australia's EYLF (AGDoE, 2009) and New Zealand's Te Whāriki (MoE, 2017) as international policies and curricula.

Chapter 4 focuses on the methodological rationale commencing by stating my underlying ontological and epistemological assumptions. Then I proceed to debate why I chose interpretivism as the underpinning paradigm, my positionality and why I decided to conduct insider research. The research design and tools, the ethical considerations and the measures taken

to enhance trustworthiness and rigour are also debated. The chapter concludes with a discussion on the data analysis process and the writing of the final report.

Chapters 5, 6 and 7 comprise the findings and their interpretation. The fifth chapter addresses the first research question which unravelled how thinking skills were being fostered in the children. Chapter 6 answers the first subsidiary question of the second research question by analysing the modifications that were made in the settings in terms of pedagogy, interactions, acquisition of new knowledge and curriculum in order to create optimal learning environments for thinking to flourish. Chapter 7 answers the second subsidiary question of the second research question, which focuses on the ways through which the children demonstrated their thinking skills in practice.

The final chapter summarises the findings and discusses the implications and the recommendations for policy and practice. It also debates the study's limitations, its originality, its significance and recommendations for further research. The thesis ends with some final personal thoughts on this remarkable doctoral journey.

Chapter 2: Literature Review

2.1 Introduction to Chapter

This literature review provides a robust theoretical background for this thesis and locates the research in a larger context. It serves as a strong foundation for the methodology that was implemented in order to advance thinking skills in KG-aged children within the Maltese context. The findings in the analysis and interpretation chapters are discussed in relation to the arguments raised in this literature review.

The chapter is divided into four sections. The first section focuses on sociocultural theory, as the underpinning theoretical framework. It also debates and provides a critique of the discourse of the competent child, since as indicated in the introduction, I support the view sustained by Malaguzzi (1993) of the child as knowledgeable who learns by relating with others. The second section starts with an overview of the literature on thinking and moves on to discuss the literature on thinking in early childhood. It also problematises the construct of knowledge and debates the intricate connection that exists between thinking, thinking skills, learning and knowledge in ECEC. The third section draws on sociocultural literature to discuss the criteria that can generate an optimal learning environment to activate a pedagogy of thinking during the two kindergarten years. In the final section, I discuss project-based work since it is an approach through which the four theoretical constructs discussed in the previous section can be put into practice.

2.2 Theoretical Framework

2.2.1 Sociocultural Theory.

A principal issue in early childhood education concerns concept formation. In this thesis, the creation of new concepts and the subsequent elaboration of established ones are considered

through the lens of sociocultural theory. This is in view of my epistemological position that reality and knowledge are created through meaningful interaction with others and are moulded by the context in which these occur, which is already laden by inherited social practices and cultural tools. This stance is also specified as the first foundational principle of this thesis. This section provides an overview of sociocultural theory, discussing its tenets and highlighting the divergences that exist between its stance and those advocated by other comparable theoretical frameworks.

Sociocultural theory is alternatively known as cultural-historical theory (Edwards, 2009). It emerged from cultural-historical psychology, which is based on the premise that there is an interlocking relation between the unique context in which people live and the essential, particular features of human psychological functions (Cole & Wertsch, 1996). In addition, it accentuates that the context is unique because “it is suffused with the achievements of prior generations in reified (and to this extent materialised) form” (Cole & Wertsch, 1996, p. 251).

Sociocultural theory is closely related to the scholarly writings of Lev Vygotsky (1896-1930), a seminal Russian psychologist. For Vygotsky (1978), learning emerges from social interactions, which are moulded by the historical and contextual circumstances in which they take place, and triggers child development. The references that Vygotsky (1978) makes to earlier social theorists indicate that the roots of sociocultural theory go back to earlier times. For instance, the Russian psychologist refers to Hegel (1812-1816) and concurs with him that the study of cognitive processes has to take into account the knowledge and concepts that a particular society has accrued over time (Cole & Engeström, 2007). In particular, Vygotsky is particularly influenced by Marx (1845-1967) who sustained that it is the consciousness of the society that shapes the mindfulness of the people on an individual level and not vice-versa (Panofsky, 2003).

In his works, which were written after the 1917 Russian Revolution, Vygotsky is critical of the dominant psychological theories of his time (Kozulin, 1990). He opposed Pavlov's (1849-1936) theory of learning based on classical conditioning, which was the prevailing psychological tradition in Russia at that time, for its reductionist view of learning (Säljö & Veraksa, 2018). In addition, he was also critical of the major contemporary psychological theories in the West: Gestalt theory (Wertheimer, 1938); psychoanalysis (Freud, 1901) and the genetic epistemology of Piaget (1936) since they all drew a sharp distinction between the psychological and the everyday aspects of development (Säljö & Veraksa, 2018).

Cultural-historical perspectives can also be found in the writings of other psychologists. A case in point is Dewey (1938) who states that the existing situation of a society is determined by what the previous generations of that society have done and thought. Although there are differences on specific conceptual aspects, sociocultural theory can be related to other theories, mainly social constructivism (Vygotsky, 1978), social constructionism (Gergen, 1999) and activity theory (Leont'ev, 1981).

To delve into detail and outline the differences between sociocultural theory and the above-mentioned theories, it is essential to discuss its undergirding premises in order to elucidate the concepts of mediation, psychological tools, ZPD, learning activity and scientific and everyday concepts (Kozulin, Gindis, Ageyev & Miller, 2003). Reference to these concepts is made again in the third section of this chapter while discussing the criteria that can provide an optimal environment for the fostering of thinking skills within kindergarten settings. The discussion now focuses on each premise of sociocultural theory.

2.2.1.1 The underpinning premises of sociocultural theory.

2.2.1.1.1 The cultural historical context

The first premise is that learning is affected by the historical cultural context in which it takes place (Vygotsky, 1978). For Vygotsky (1986):

The nature of the development itself changes, from biological to sociohistorical. Verbal thought is not an innate, natural form of behavior, but is determined by a historical-cultural process and has specific properties and laws that cannot be found in the natural forms of thought and speech. Once we acknowledge the historical character of verbal thought, we must consider it subject to all the premises of historical materialism, which are valid for any historical phenomenon in human society. It is only to be expected that on this level the development of behavior will be governed essentially by the general laws of the historical development of human society.
(p.94-95)

This position is in huge contrast with cognitive constructivism, which views intellectual development as a course that occurs in definite stages determined by age, irrespective of culture and context (Piaget, 1954). Here, thinking is perceived as a process that varies according to the history and context of the place in which the child is growing up. The works of Piaget and Vygotsky reflect this principle in practice since their theories and standpoints reflect the political and social ideologies of the milieus in which they were writing (Wong & Logan, 2016). The Piagetian theory reflects the evolving individualistic culture of the West while the Vygotskyian theory echoes the communist principles of collaboration that dominated the then Union of Soviet Socialist Republics (USSR) (Wong & Logan, 2016).

The notion that the social environment influences learning can also be observed in Dewey (1916). However, Dewey (1916) moves a step further and asserts that the environment is not only influential but also crucial in enabling the children to apply their learning to address their present social goals. This implies that educators do not only have to take into consideration the cultural values of their context but modify the environment to facilitate the process for the

children to answer their inquiries. While both Vygotsky (1978) and Dewey (1897) recognise the value of culture, they do not agree on its degree of influence on concept formation (Glassman, 2001). Whereas for Vygotsky (1978) culture is what shapes concept formation, for Dewey (1916) it is experience. Educators need to merge both theoretical views as they both influence learning. Culture impacts upon concept formation, however, the children also need to experience learning in order to assimilate new concepts.

The value of culture in education is also recognised by Bruner (1966, 1996). In his earlier works, Bruner (1966) portrays culture as the educational matter that advances concept formation in children. However, in later works, Bruner (1996) modifies his concept of culture and asserts the thesis that "...culture shapes the mind ... it provides us with the toolkit by which we construct not only our worlds but our very conceptions of our selves and our powers" (p. x). Moreover, Bruner's (1996) views support the Vygotskyian perspective that concept formation depends and is moulded according to the "symbolism" (p. 3) that is inherited from previous generations and which preserve the distinctiveness of the culture and its lifestyle. The change in Bruner's conception of culture continues to highlight its importance in concept formation advocated by his predecessors. He raises our awareness as educators of considering culture as the framework within which the children build their own identity.

2.2.1.1.2 Social interactions: mediation and psychological tools.

The second premise is that learning is generated through social interactions with the implementation of two major concepts of sociocultural theory; mediation and psychological tools (Lantolf, 2000). According to sociocultural theory, the human mind does not connect directly with the world but is "mediated" (Lantolf, 2000, p. 1).

Mediation occurs through human and symbolic tools that are positioned between the child and the new concepts to be learnt (Kozulin, 2003). In the Vygotskyian paradigm, human mediation occupies a crucial position since the theory states that learning first occurs on a social level and subsequently, occurs on an individual level: “Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological)” (Vygotsky, 1978, p. 57).

Symbolic mediation occurs when children make use of psychological tools used in their cultures to interact with the environment such as tying knots and counting fingers (Vygotsky, 1978). These tools, which are defined by Vygotsky (1978) as “higher intellectual processes” (p. 20), are refined by societies to suit their immediate needs and are passed on from one generation to the next such as language, numbers and music (Lantolf, 2000). Besides the use of material artefacts, both human and symbolic mediation are important and need to be present for cognitive advancement (Kozulin, 2003). Psychological tools are not activated without the mediation of a more informed person who assists the child in implementing them. Similarly, human mediation is useless if there are no symbolic tools to enable the child to grasp challenging cognitive aptitudes.

This premise challenges the behaviourist epistemological perception of the child as a tabula rasa on which the educator inscribes new knowledge (Pavlov, 1927; Skinner, 1974; Watson, 1994). It also contests the dominant perception perpetuated by the Piagetian paradigm that the children’s agency of learning depends on their spontaneous desire to learn (Kozulin, 2003). Various studies have demonstrated the inadequacies of these perceptions since self-discovery was not leading the children to discover and master complex concepts and the child is far more competent than what it is maintained by orthodox theories (Kozulin, 2003).

The use of symbolic tools as one of the main concepts of sociocultural theory highlights the slight difference that exists between this theory and social constructivism. Considering that both social constructivism and sociocultural theory (Vygotsky, 1978) are rooted in the writings of Vygotsky, there is only a small divergence in the way the creation of new meanings is understood. In social constructivism, it is the social and cultural context that impact on the development of learning and understanding (Madrid & Kantor, 2007b). However, with regards to sociocultural theory, the cultural tools and artefacts including print and symbols used to develop new understandings are as important as the context itself (Cole and Wertsch, 1996). As pointed out by Stetsenko, (2005) “human development is based on active transformation of existing environments and creation of new ones achieved through collaborative processes of producing and deploying tools” (p.72). I am in support of Stetsenko’s perception because as stipulated above, the symbolic tools generated and developed in a society are as important for concept formation as the social environment itself.

The influence that the psychological tools have on society marks the difference between Vygotsky (1978) and Dewey (1916). Whereas for Vygotsky, the symbolic tools have a strong influence on the community in which they are developed, for Dewey they simply serve individuals as reference points while addressing their current concerns and are overruled when they are not deemed to be enough to address a particular issue (Glassman, 2001). Such perception of psychological tools reflects the Deweyan principle of having a democratic society (Dewey, 1916).

Similar to Vygotsky and Dewey, Bruner (1996) argues about the symbolic tools that are conveyed from one generation to the next in a society and asserts that these tools safeguard the identity and the stability within the culture. Bruner (1996) agrees with Vygotsky (1978) that these tools affect society and evolve through time. Nevertheless, he does not maintain Dewey’s

view (1916) that the tools are ignored when they are not considered to be useful in particular situations. Instead, Bruner (1996) asserts that these tools enable children to adapt themselves to the society in which they are born and to change it as is necessary.

Albeit these views about the symbolic tools of society vary slightly, they all have implications for practice. In the learning environment, educators need to recognise the impact of culture on learning (Bruner, 1996; Dewey, 1916; Vygotsky, 1978). Culture enables them to form their identity (Bruner, 1996; Vygotsky, 1978). It is crucial to create a learning environment for the children to grasp the psychological tools of their society (Bruner, 1996; Dewey, 1916; Vygotsky, 1978). However, it is also essential to allow the children the space to decide whether to follow the established psychological tools or change them to suit their situation (Dewey, 1916). In such a way, the learning environment would be more democratic (Dewey, 1916).

As argued earlier, sociocultural theory prioritises the development of cognition rather than the actual social practices and cultural tools that people use and learning is understood to be construed first on an interpersonal level and then on an intrapersonal level. Thus, the principal emphasis is not on cultural tools such as discourse as in social constructionism (Madrid and Kantor, 2007a). In this thesis, the focal point is thinking and thus, social constructionism was not appropriate as theoretical framework.

2.2.1.1.3 The zone of proximal development, scaffolding and more knowledgeable other

The third premise of sociocultural theory concerns the space in which the mediation described above occurs. Vygotsky (1978) defines this figurative space as the ZPD and describes it as "...the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (p. 86).

Chaiklin (2003) asserts that the ZPD identifies both the stage of intellectual processing which the children should be at in relation to their age and the actual position of the children in relation to the stage in which they are supposed to be. Thus, advancement within the zone must not be interpreted in terms of the number of tasks the child is able to accomplish but according to the progression that it generates in the psychological functions of the children in order to enable them to reach the stage of cognitive functioning they should be at (Chaiklin, 2003).

A related concept to the ZPD, is scaffolding, a construct proposed by Wood, Bruner and Ross (1976) and further elaborated by Bruner (1978). By scaffolding, Bruner (1978) infers “the steps taken to reduce the degrees of freedom in carrying out some task so that the child can concentrate on the difficult skill she is in the process of acquiring” (p 19). Bruner (1977), unlike Vygotsky (1978), specifies that the educator has to be the person occupying the leading role. As will be debated later on, scaffolding should not consist in oversimplification of the task; otherwise, the purpose will be lost (Chaiklin, 2003; Veraksa, Shiyan, Shiyan, Pramling & Pramling-Samuelsson, 2016). Instead, the scaffolding process has to ensure that there is progression in the thinking of the child (Säljö & Veraksa, 2018).

Also connected to the ZPD is the concept of the MKO, which represents the more informed person who directs the child to achieve his prospective level of reasoning (Vygotsky, 1978). For Vygotsky (1978), the more knowledgeable person could be the educator or an adult but it could also be another child or a group of children (Zuckerman, 2003). In contrast, as discussed earlier, Bruner (1977) specifies that the MKO has to be the educator. Current literature shows that concept formation can occur even when the MKO is another child in the setting. This argument shall be further debated later on in this chapter when the ZPD and MKO concepts are discussed in relation to the key criteria that constitute an optimal environment for the advancement of thinking skills in children.

2.2.1.1.4 Learning activity.

The notion of learning activity is the fourth premise of sociocultural theory (Kozulin, 2003). It was developed from Activity Theory (Engeström, 2015; Leont'ev, 1981), which is informed by Vygotskian ideologies, and claims that activity is the foundation of all human accomplishments (Giest & Lompscher, 2003). Learning activity was developed by the Neo-Vygotskyian theorists Elkonin (1988) and Davydov (1988a; 1988b; 1988c; 1999). This concept is different from what is normally understood by learning activities in common parlance in that it aims at enabling the child to become a reflective thinker and the “agent of self-change” (Zuckerman, 2003, p. 177). The learning activity plays an important role within the ZPD as it can serve as a scaffolding step for the child to use his prior knowledge in order to reach the target ability (Zuckerman, 2003). Referring to ECEC, as from the initial years of education, educators have to start nurturing in the children the principles of learning activity by enabling them to start reflecting on their learning using questioning and hypothesising (Zuckerman, 2003).

2.2.1.1.5 Emergence of spontaneous and scientific concepts.

The final premise of sociocultural theory is the emergence of scientific and common concepts in children (Kozulin, 2003). Vygotsky (1986) distinguishes between the “spontaneous” (p. 146) concepts that the children develop out of their experiences without any specific tutoring and the “scientific” (p. 146) concepts that the children learn through direct guidance. Although common concepts are generally erroneous, they are still important as they constitute the underpinning structure for the learning of the scientific ones (Karpov, 2003). Neo-Vygotskyian scholars such as Davydov (1990) state that these two categories of concepts are learnt through “empirical and theoretical” (p. 3-4) methods. The empirical method, which is based on practice,

leads to the formation of common everyday concepts and the theoretical method, which is led by the educator, serves for the formation of scientific ones (Karpov, 2003).

This notion highlights another distinction between sociocultural theory and constructivism. Whereas Piaget (1970) and Dewey (1902) state that the child should be left to discover already-established scientific laws through their own experiences, Vygotsky (1986) asserts that it is the role of the educator to teach theoretical concepts to the child. Linking this argument with the notion of learning activity debated earlier, within the ZPD, the educator directs the child to reflect on previously acquired knowledge in order to arrive to understand a new theoretical concept, which in this case represents the targeted ability of the ZPD.

2.2.1.2 The role of the educator.

As can be deduced, even though, as discussed earlier, there are similarities between sociocultural premises advocated by Vygotsky (1978), constructivist principles supported by Bruner (1966) and pragmatist tenets held by Dewey (1902), there is a notable difference in the role they attribute to the educator. Vygotsky (1978) and Bruner (1966) view the educator as a counsellor who directs the child towards the new level that he has to reach while Dewey (1916) puts the child on the same level of the educator. I argue that one needs to strike a balance between both views. I concur with the Deweyan perspective that the educator has to create an enabling environment for the children to learn through experience and agree with the Vygotskyian and Brunerian principle that at times the educator has to step in to ascertain that the activities are actually leading to further learning and concept formation. Otherwise, as Kozulin (2003) asserts, the opportunities for the children to grasp significant complex concepts may be jeopardised. Due to its significance, this argument will be discussed in further detail in the section on the discourse of the competent child.

In the introduction, it was indicated that this thesis is grounded on three principles. Sociocultural theory as theoretical framework was selected in coherence with the first principle, which is that social interaction is the driving force of concept formation in young children. It is now appropriate to proceed with a discussion on the social construction of “the competent and self-governed child” (Liljestrand & Hammarberg, 2017, p. 39) since the analysis of this construct is pertinent to the remaining two principles underlying this thesis. These are the consideration of early childhood as a distinctive life phase that is not merely perceived as a preparatory phase for future living (Robson & Flannery Quinn, 2015) and the perception of the child as a competent and active social actor (Malaguzzi, 1993).

2.2.2 The ‘competent child’ social construct.

The perception that educators have of young children moulds the pedagogy applied in the settings (Dahlberg, Moss & Pence, 1999). Accordingly, this section elucidates the view of the child adopted in this thesis. This standpoint determines the selection of the theoretical constructs that are deemed to be pivotal for the activation of a pedagogy of thinking. These theoretical constructs are debated in a subsequent section of this chapter (Section 2.4).

Along the years, a spectrum of conceptualisations of the child and childhood have emerged in the literature, ranging from the traditional notion of the child as submissive and passive to that of the child as self-governed (Ellegard, 2004; Lansdown, Jimerson & Shahroozi, 2014). One of these conceptualisations is that of the competent child, which developed with the endorsement of the child’s right to play, to engage in cultural and leisure activities and to partake in decisions that directly affect them declared in the 1989 *United Nations Convention on the Rights of the Child* [UNCRC] (United Nations, 1989).

From this perspective, children are considered as active and dynamic participants of society rather than as passive beings who always depend on the decisions of those in power (Ellegard, 2004). This standpoint led to a paradigm shift in the social understanding of childhood and the child (Smith, 2011; Sommer, 2012). The old notion of the child as “passive-receptive” (Sommer, 2012, p. 83) was replaced with that of “competent” (Sommer, 2012, p. 83), which views the child as being able to communicate with others in purposeful interactions as from birth.

Considering children as active and competent thinkers denotes the theoretical standpoint that their opinions, experiences and activities are respected, esteemed and put in the limelight. It implies a holistic interpretation of childhood as a life phase in its own right and with its own needs rather than as the time-frame which simply serves the inexperienced learners to get well equipped for the future (Robson & Flannery Quinn, 2015).

I am in support of the social construction of the child as competent and concur with scholars such as Dahlberg, Moss and Pence (2007) when they assert that the child “is born equipped to learn and does not need adult permission to start learning” (p. 50). However, the construct has to be problematised when its discourse is stretched to the extent of considering adult intervention as harmful to learning, as shown in this quotation taken from the same text by Dahlberg et al., (2007): “In fact, the young child risks impoverishment at the hands of adults and, rather than ‘development’, the loss of capabilities over time” (p. 50).

I resonate with the stance in Kalliala (2014) that it is inappropriate to look at the abilities of the child through such an amplified lens. A disproportionate romanticized view of the child may make educators unaware of the needs that the children might have in other situations. Not all children have the same dispositions towards learning (Biermeier, 2015). For some children, it

comes naturally to take an active role while others need support to get involved in learning activities and to move beyond a superficial level of learning (Kozulin, 2003).

Consequently, as maintained by Kalliala (2014), “it is most natural to see the development of the child as a co-constructed process in which children should neither be left alone nor have their contribution underestimated or discounted” (p. 14). This view provides an alternative perspective for the discourse of the ‘competent child’; one that considers learning as a “co-constructed process” (Kalliala, 2014, p. 14) rather than as an isolated endeavour as depicted by Dahlberg et al. (2007). This standpoint fuses the concept with sociocultural principles, positioning contextual group interactions and relations as the determinant factors for learning. Merging the discourse of the ‘competent child’ with sociocultural premises call for new conceptualisations of competence that have significant consequences for pedagogy. In this scenario, educators have to shift their attention to focus upon the creation of sensitive, respectful interactions that acknowledge children’s competencies whilst also recognising children’s motivation to become more knowledgeable through interactions with others. Thus, as asserted by Murray (2018a), they need to have “sophisticated expertise to know if, when and how to intervene” (p. 1).

Having debated the theoretical framework and clarified the view of the child embraced in this thesis, the next section focuses on the area of study; thinking in early childhood. To reach this aim, the discussion starts by situating the area of study within its historical and wider context. Subsequently, the focus is narrowed down on thinking in the early years.

2.3 Thinking

2.3.1 Overview of literature on thinking.

One of the most remarkable explanations of thinking was given by Dewey (1916), the modern father of thinking pedagogy, more than a century ago. Dewey interpreted thinking as a subjective, uncertain and risky nonetheless exciting endeavour (D'Agnesse, 2017; Pouwels & Biesta, 2017). Dewey (1916) describes thinking as a process tightly related to experience that has the same characteristics of an “adventure” (p. 174) into the “unknown” (p.174), emanated by “doubt or uncertainty” (p. 345). Subsequent scholars continued to elaborate on the Deweyan understanding of thinking as a process that is strongly related to experience. Nisbet (1993), for instance, reiterates that thinking is a process that we learn through our daily decisions and experiences. White (2002) upholds four premises on thinking: it has to be intentional; people engage in thinking out of their own will; it involves concepts and it is a skill that can be observed and improved through practice. In addition, White (2002) observes that while children are fostering their thinking, they also need to be trained by their educators “to get into the habit of thinking clearly” (p.104).

The teaching of thinking was vigorously debated in educational research in the 1980s and 1990s as researchers became more aware that people’s quality of life varied according to their level of thinking aptitudes (Fisher, 1999; Lipman, Sharp & Oscanyan, 1980; McGuinness 1999; Nisbet, 1993). Other educational researchers started to focus on how thinking skills were to be fostered in learners with the intention of enabling them to implement them in different situations (Bruer, 1993; Resnick & Klopfer, 1989).

As thinking programmes began to develop, various terminologies related to the teaching of thinking started to emerge, including thinking strategies (Parker, 1987), thinking dispositions

(Perkins, Jay & Tishman, 1993), higher-order thinking (Lipman, 2003), thinking skills (Fisher, 2007) and Habits of Mind (Costa & Kallick, 2008). Although these terms are sometimes used interchangeably, minor differences are underlying their conceptual understandings (McGuinness, 1999). However, thinking skills, defined by Fisher (2007) as “the habits of intelligent behaviour learned through practice” (p. 72) is the term with the most widespread use.

Although the literature does not yield one common list of thinking skills due to the difficulty in defining them, it states that it is possible to identify them while they are being used (Lipman, 1988; Resnick, 1987). Thus, long taxonomies of thinking skills were invented along the years, for instance, Swartz and Parks (1994). There is considerable overlap between these taxonomies with the most frequently mentioned skills being “collecting, sorting, analysing, evaluating and drawing conclusions from information, 'brainstorming' new ideas, problem-solving, determining cause and effect, evaluating options, planning and setting goals, monitoring progress, decision making and reflecting on one's own progress” (Robson and Hargreaves, 2005, p. 82). A thorough look at these taxonomies reveals several similarities. Broadly speaking, their skills can be classified under five categories, which are information processing, problem-solving, creative thinking, critical thinking and metacognition (Fisher, 1987, 1998). Table 2.1 provides the definition of each category and examples of its related thinking skills found in the literature.

<u>Category</u>	<u>Definition</u>	<u>Related thinking skills</u>
Information Processing	Used to manage the information that was previously gathered (Fisher, 1999)	identifying, classifying, sequencing, comparing and examining part/whole relationships (Fisher, 1999)
Problem Solving	The unclear process undertaken to transform the current status of a complex situation or matter into a different one (Dostál, 2015)	Intuition (Bruner, 1977) Predicting (Scribner-MacLean, 2012) asking questions, Investigating (Fisher, 1987)
Critical Thinking and Reasoning	Enables decision-making based on knowledge by questioning reasoning to ensure the validity of arguments (Hanscomb, 2017)	Analytic thinking (Bruner, 1996) Giving reasons for their beliefs, assessing evidence (Fisher, 1999)
Creative Thinking	The cognitive ability to invent original significant intangible and tangible products (He, 2017; Wegerif, Li & Kaufman, 2015)	hypothesising (Craft, 2015) making assumptions, imagining, exploring ideas (Fisher, 1990)
Metacognition	The exceptional cognitive process of thinking about thinking that necessitates self-awareness of own knowledge and of the processes used to acquire that knowledge (Chatzipanteli, Grammatikopoulos & Gregoriadis, 2014)	self-awareness, self-monitoring, self-regulation (Fisher, 1998)

Table 2.1: The five categories of thinking skills: their definitions and related thinking skills

2.3.2 Literature on thinking in early childhood.

At the turn of the 21st century, with the increasing widespread consciousness about the importance of ECE, various scholars deriving from the field started to look for ways to assist thinking in young learners (Costello, 2000; Fisher, 1998; Wallace, 2002, White 2002). This interest had a ripple effect on policymakers as thinking started to be mentioned in official documentation (Robson & Hargreaves, 2005). Referring to the English context, thinking was for the first time explicitly mentioned in *Curriculum Guidance for the Foundation Stage* (Department for Education and Employment, 2000). Moreover, large longitudinal studies, specifically, *Researching Effective Pedagogy in the Early Years* [REPEY] (Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002) and subsequently, *Effective Provision for Preschool Education* [EPPE] (Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2004) were commissioned by the government with the intention of raising standards of ECE provision.

An important approach to the cultivation of thinking in early years was developed by Athey (1990) who followed the cognitive constructive paradigm and elaborated the concept of schema initiated by Piaget (1954; 1962). In her seminal work, Athey (1990) concurs with Piaget that human actions convert themselves into thinking and categorised eight repeated patterns of behaviour. Looking and developing cognitive aptitudes through the perspective of schemas is still very relevant today as various studies reveal its effectiveness in supporting young children's thinking (Atherton & Nutbrown, 2013, 2016; Brierley, 2013; Nutbrown, 2011c). For instance, Nutbrown (2011b) describes how a child referred to as Belinda explored the enveloping and containing schema and Atherton and Nutbrown (2016) observe how a girl referred to as Annie developed the same schema through various activities. Arnold (2003) describes how Harry's play with the train set reflected his interest in 'connecting', which also helped him to understand the separation of his parents.

However, the approaches which are underpinned by cognitive constructivist tenets ignore the social aspect of learning because they are grounded on the assumption that child development emerges from within rather than triggered by outside stimuli (Sutinen, 2008). It is on this matter that the schema theory differs from theories and approaches that emanate from a sociocultural standpoint, for instance working theories (Hedges, 2014; Peters & Davis, 2015), which are thoroughly discussed in Section 2.4.4 of this chapter. The schema theory considers direct adult intervention as a disturbance to the children's train of thought (Nutbrown, 2011c). It is more concerned with repetitive and consistent "patterns of behaviour" (Athey, 2007, p. 5).

In contrast, as I have argued in the theoretical framework, approaches and theories that are grounded on sociocultural perspectives do not only value adult intervention but perceive it to be important in supporting children's thinking. Children are perceived as dynamically and socially engaged in their learning environments rather than as "lonely scientists" (Edwards, 2005, p. 38). Such perspective reflects a "relational constructivist approach" (Carpendale & Lewis, 2015, p. 126) to thinking, which considers socialisation as the driving force for learning and assumes that children construct their knowledge and skills through communication with others. As specified earlier, this thesis is located within sociocultural theory and thus, I concur with the theoretical position that through support from the educators, inspiration within the learning environment and collaboration, KG-aged children can be enabled to strengthen their thinking processes.

Before proceeding to discuss the key theoretical concepts that I consider to be crucial elements for the cultivation of thinking in young learners, it is imperative to elucidate the reasons for which the fostering of thinking and thinking skills are key to learning and knowledge. Thus, at this point it is pertinent to problematise the construct of knowledge in order to highlight the intricate connection that exists between thinking, thinking skills, learning and knowledge.

2.3.3 Problematising the construct of knowledge

The search for knowledge has been at the core of philosophical debate since the Ancient Greeks (Brunschwig & Lloyd, 2000). For instance, in the ‘Apology’ (Plato, 347 BC) written by his student Plato, Socrates asserts that he recognised that he knew nothing. Yet, this was his statement of knowledge by which he inferred that there was a lack of wisdom in his community (Rudebusch, 2009). Aristotle (350, B.C.E), in turn, claimed that all humans sought knowledge due to their innate desire to know more without pursuing any advantage it may entail (Brunschwig, 2000). In ‘Theætetus’, Plato (369 BC) debated that for a statement to be considered as knowledge, it needs to fulfil three criteria; belief, truth and justification. This classical assertion still remains the predominant definition of knowledge, even though it has been contested through the centuries (Siegel, 1998), mostly by Gettier (1963) whose counter-arguments called for modifications.

The term ‘epistemology’ which derives from the Greek word “epistêmê”, refers to the philosophical theorizing of knowledge, focusing on its nature, justification and belief (Coffey, 1917). There are several types of knowledge debated in the literature, including: propositional or foundational knowledge which involves the recall of facts and information (Moser, 1987; Kereluik, Mishra, Fahnoe & Terry, 2013); procedural knowledge which refers to the skills and sequences involved in accomplishing particular tasks (Georgeff & Lansky, 1986); expert knowledge requiring both propositional and procedural knowledge and is determined by the individual’s social status (Hetmański, 2018); empirical knowledge that is only gained through the senses principally through observation (Ayer, 1964); a priori knowledge which is knowledge that does not require experience (Kant, 1781/1922); a posteriori knowledge which, on the contrary of a priori knowledge, depends upon experience (Williamson, 2013); encoded knowledge which is represented by signs and symbols (Blacker, 1995); dispersed knowledge

which is distributed among a group of people, each of them having a particular expertise (Hayek, 1945); explicit knowledge which is knowledge articulated or written publicly (Collins, 2010); tacit knowledge which as opposed to explicit knowledge consists of information that is difficult to share such as experience (Collins, 2010); metaknowledge that consists of knowledge of thinking skills that facilitate the application of foundational knowledge (Kereluik et al., 2013) and humanistic knowledge which is based on emotional awareness (Kereluik et al., 2013).

Furthermore, there are challenging aspects regarding the nature of knowledge. The first is that knowledge never reaches its completeness; “it is dynamic” (Halpern, 2014, p.7) since it is modified by the rapid changes in social contexts, globalization and technological advancement (de Bono, 1976; Kereluik, et al., 2013). Moreover, cyberspace made real-time information more accessible and available and consequently, people transform their existing knowledge as they assimilate new information (Halpern, 2014; Resnick 1985). Thus, as stated by Heraclitus (535 - 475 B.C.), cited in Plato (360 BC), a person cannot step in the same river twice because knowledge evolves continuously and the only constant in life is change itself (Birch & Hooper, 2012). Secondly, knowledge is also situated (Haraway, 1988). Through her criticism of feminist constructivist and relativist standpoints, Haraway (1988) raises the awareness that knowledge reflects the position and perspective of its producer. Thus, knowledge cannot be taken as the status quo; it has to be appraised in light of the principles of its authors and their contexts.

2.3.4 The intricate connection that exists between thinking, thinking skills, learning and knowledge in ECEC

In ECEC, these elements are salient matters to consider, particularly nowadays with the “schoolification epidemic” (Ring and O’Sullivan, 2018, p. 402) that has also taken its toll on what counts as knowledge and what should constitute learning for young children. In a time when the discourse for the justification of control disguised as accountability seems to dominate

over that of sensitivity towards children's needs and interests, ECEC curricula may be focusing more on knowledge transmission rather than on supporting learning through play as the suitable means for skills acquisition (Bradbury, 2019; Gunnarsdottir, 2014; Wood, 2019). Such curricula may be failing the children as it would only permit them to acquire "maintenance learning" (Botkin, Elmandjra & Malitza, 1979, p. 10) leading them to the acquisition of conventional knowledge, which is mostly propositional knowledge (Moser, 1987) and encoded knowledge (Blacker, 1995).

Thus, the complexity of today's world requires learning that goes beyond content knowledge (Young, 2014). It requires "innovative learning" (Botkin et al., 1979, p. 12) that would enable young children to put their foundational knowledge to use (Nottingham, 2013). In their analysis of the leading literature that debates what knowledge is most worth for the 21st century, Kereluik et al. (2013) associate this learning with thinking skills mainly problem solving, critical and creative thinking skills that would enable the application of foundational knowledge. Kereluik et al. (2013) define these thinking skills as metaknowledge, which when combined with foundational knowledge and humanistic knowledge constitute the knowledge that is indispensable to live in today's complex society.

This form of learning is grounded on thinking that has long been recognized as a major objective of education (Dewey 1933; Holder, 1994; Nickerson, Perkins & Smith, 1985). In ECEC, it requires curricula with particular determinant factors. The first factor is the acknowledgement that children are capable of constructing knowledge. Without this recognition, the children may have far fewer opportunities for experiential learning and therefore to foster their thinking (Dewey, 1938). Murray (2017a) demonstrates that young children are not only capable of constructing knowledge, but of using similar behaviours to those of academic researchers. Through the anecdotes, Murray (2017a) also shed lights on how adults influence

young children in their pursuit of knowledge. Referring for instance to Gemma, the decision of the researcher to give her a video camera and the choice of her parents to allow her to use it around the house, enabled the girl to engage in exploration and construct new knowledge.

The second element is related to the extent to which ECEC curricula acknowledges and respects the funds of knowledge that the children bring to the school (González et al., 2005). The curricula which ignore the children's prior experiences, do not recognise the role that these experiences play in serving them as a stepping stone for the construction of further knowledge (Chesworth, 2016). In contrast, ECEC curricula and programmes which respect children's culture and social contexts such as the Australian framework (AGDoE, 2009) and New Zealand's Te Whāriki (MoE, 2017) emphasise that young children have to use their thinking skills and prior knowledge to construct new knowledge.

The third criterion concerns the extent to which ECEC curricula considers the children's pursuit of working theories and interests as an appropriate route towards the acquisition of new learning and knowledge (Hedges & Cooper, 2014). Referring, for instance, to EYFS (DfE, 2017), which states that adult-led activities are more suitable to prepare children for formal education (p. 9), subtly implies that child-led activities do not enable young children to learn and acquire the knowledge that is expected by the framework. This may also imply that the thinking skills mentioned in the framework are only required for the acquisition of knowledge stipulated in the document. On the other hand, when curricula aim at enabling the children to get a better understanding of the world, the children are encouraged to use their thinking skills to explore and discover new learning and knowledge. This is the case of Te Whāriki (MoE, 2017), which specifies that instead of controlling children's agency, educators have to take a genuine interest in the children's working theories since its aim is that of enabling young children to make meaning of the world around them (p.23).

The fourth factor concerns openness to new conceptualisations of knowledge. Curricula are political documents, aimed at establishing what is to be done and at keeping control over what is done (Bell & Stevenson, 2006). Their officiality makes the subtle claim that the knowledge that they declare should be gained by the children has more worth than that which the children can learn from their social context (Ball, 1993; Freire, 1970; Young, 2014). As will be debated in the Policy Review Chapter, policymakers can make use of “accountability warrant” (Hyatt, 2013, p. 839) and “political warrant” (Hyatt, 2013, p. 839) to justify their positions and portray the knowledge they convey as the only possible ‘truth’. Similar views limit the fostering of thinking since the children are expected to make use only of the skills they need to acquire the indicated knowledge. However, if curricula encourage new conceptualisations of knowledge, young children are more likely to broaden their insights. Lenz Taguchi (2010b), for instance, advocates for intra-active pedagogy which is based on an “ontology of immanence” (p. 15). Lenz Taguchi (2010b) explains that knowledge is the outcome of learning that emerges from the “intra-active relationship between all living organisms and the material environment such as things and artefacts, spaces and places” (p. xiv). Thus, when curricula are open to such understandings, educators are more likely to encourage young children to think on how to develop knowledge from different perspectives. This would require training for educators to become mindful of the bearing that resources, experiences and reflections can have on the construction of knowledge. The impact that the materials have on the creation of new knowledge cannot be acknowledged by the children if their educators are not aware of the intractivity between the physical environment and the children.

In view of the theoretical framework, the literature on thinking and the above discussion, I shall now proceed to discuss the key theoretical concepts that I consider to be crucial elements for the cultivation of thinking in young learners. I shall draw on the works of Vygotsky (1978,

1986), Bruner (1966, 1996, 1977) and Dewey (1897, 1899, 1902, 1916, 1938) and other relevant and recent literature to sustain my argument that thinking in young children flourishes in social and cultural contexts and emerges from symbiotic interactions and shared experiences among learners and between learners and more accomplished others.

2.4 Key concepts for advancing thinking in young children

A methodical search for recent literature that informs the cultivation of thinking in young children yielded a limited number of journal articles and books because the majority of the literature on this topic was written before or around the turn of the millennium. Consequently, to identify the key concepts that would play a major role in providing effective support for concept formation in KG-aged children, I started by thoroughly examining the main theoretical concepts that emerge from the pioneering writings of Vygotsky (1978, 1986), Bruner (1966, 1996, 1977) and Dewey (1897, 1899, 1902, 1916, 1938). Once the fundamental theoretical notions were identified, I subsequently searched for current literature to illuminate my insights on how they are refined and revitalised to contribute to knowledge and advance research in other areas of education concerning ECEC and beyond. As a final step, I reconceptualised these notions in order to explore how they can be applied to my area of study, while also referring to the recent literature on the fostering of thinking in young children.

Accordingly, the remaining discussion is divided into four sub-sections, each focusing on one of the criteria. Section 2.4.1 focuses on relational pedagogy, which provides the framework within which the subsequent criteria can be implemented. The following discussion in section 2.4.2 debates dialogues, arguing that they have to be both meaningful and intentional. Section 2.4.3 explores the emergence of new meaning and it is asserted that this has to be based on co-construction. In Section 2.4.4 the focus is on curriculum and it is posited that for the

advancement of thinking, it has to be emergent and inquiry-based. The notion of working theories is explored while discussing the emergent curriculum.

2.4.1 Relational pedagogy

In its most basic form, the term pedagogy is understood as the artistic and scientific ability of teaching (Ryan & Hornbeck, 2007). Until some years ago, the emphasis has only been on instructional pedagogy, which focuses entirely on content knowledge (Peters, 2009). Furthermore, the pedagogy implemented in ECEC settings was dominated by cognitive maturational and developmental theories and the discourse on child-centred approaches. As a result, educators observed their learners in a detached manner and learning depended on the readiness of the child (Rogoff, Matusov & White, 1996).

With the emerging interest in the educational field in the learners' experiences and the acknowledgement that these experiences influence learning, the discourse of pedagogy started to change. It gave rise to an alternative genre of pedagogy, termed as relational pedagogy (Papatheodorou, 2009). It is grounded on sociocultural theory, which advocates that learning is understood to occur in social contexts and that pedagogy has to take into consideration the cultural values and contextual circumstances of the learners (Dewey, 1916; Vygotsky, 1978). Papatheodorou (2009) asserts that relational pedagogy, "invests a dialectical relationship between learner and teacher and acknowledges the particular, cultural, social and structural context where such relationships can develop" (p. 5).

Such pedagogy implies a shift in the educator's perception of the learner since the latter is no longer viewed as occupying a submissive and passive role (Freire, 1970). Rather, educators consider their learners as having the ability to accomplish challenging tasks with tailor-made direction from them. Thus, in a setting that embraces relational pedagogy, educators

acknowledge the prospective advantages of connecting with their learners (Crownover & Jones, 2018). They do not stop at observation but instead use its documentation to inform their practice by eliciting cues for cultivating and advancing learning (Luff, 2009). In her case study, Luff (2009), shows how practitioners can make use of their daily informal observations to strengthen the relationships within the settings and consequently, use group activities to respond to the needs of the children.

International contemporary policy documents are also acknowledging the influence that both informal and formal interactions have on the learning process (Degotardi, Page & White, 2017). For instance, New Zealand's national early childhood curriculum, *Te Whāriki* (MoE, 2017), specifies that early years educators have to implement relational pedagogy and outlines the characteristics that are associated with it (MoE, 2017; Papatheodorou, 2009). These are discussed in more detail in the policy review chapter (Chapter 3).

The theoretical framework of relational pedagogy is constituted of three components (Brownlee, 2004). The first one is the consideration of the learner as competent, the assurance that the tasks in the learning setting are relevant to the learners' inquiries and context and the prioritisation of understanding over coverage of academic content. In the remaining part of this section, I debate how relational pedagogy can create the appropriate climate that enables the children to cultivate and apply their thinking skills.

With regards to thinking, a relation pedagogy is optimal because it "offers the tools for attending to, unpacking, deconstructing and reconstructing cognitive and social relationships for learners to become reflective, critical, meaning-making and active citizens of today's and tomorrow's world" (Papatheodorou, 2009, p. 14). With this assertion, Papatheodorou (2009) observes that relational pedagogy can enable young children's thinking in multiple ways.

Firstly, it provides a secure atmosphere for the children to find it easy to share their thoughts. Since the children become aware that the educator is taking a genuine interest in their working theories, that their educators consider them as competent in what they are exploring, they do not feel judged by the intervention of the educator and are more willing to share their thoughts.

Secondly, educators can make use of their expertise to engage with the learners in meaningful interactions, showing them how to evaluate and be critical in their everyday tasks in order to broaden their reasoning. Such a situation is clearly depicted in Hedges and Cooper (2018) who portray how the educators Trish and Krista use relational play-based pedagogy to direct Zoe to reflect on her drawing of the rain in her picture. Through questioning, Zoe is led to become aware of its inconsistencies and to explain the reasons behind her drawing. Moreover, through this interaction, the educators take the opportunity to teach Zoe specific technical vocabulary related to art. It is significant to observe that if her educators would have embraced a pedagogy based on a culture of performance instead, Zoe could have had only a remote opportunity to learn such terminology because it did not form part of the pre-established outcomes in official policies.

Enabling the children to be critical of their work may also lead them to become creative. Their thinking may advance in such a way to surpass the expectations of adults. Peters and Davis (2015) illustrate this in their description of how the suggestion given by the educator Nikki to the pre-schooler Sarah-Kate to produce a book with her own stories, was taken seriously by the girl. Sarah-Kate's stories became more detailed and contained her reflective thoughts and understanding of the world around her.

Thirdly, relational pedagogy ascertains that new stimuli for thinking arise from the children's context, which is subjective to cultural factors and social values. These stimuli are

then translated by the child into inquiries, or as Davis, Peters and White (2012) metaphorically call them, “islands of interest” (p. 1). These can be brief and momentary or expansive and elaborated over time, depending on the interest of the children. An illustration of this assertion is found in Hedges and Cooper (2018), who explain how the educators capitalize on Hal’s interest in animals to broaden his knowledge and clarify his misconceptions on lions. By embracing relational pedagogy, the educators set up several learning experiences in the setting to address Hal’s interest. They also used the professional relationship they had with his parents to provide Hal with the support he needs to broaden his knowledge on his interest away from the setting.

Relational pedagogy enables educators to become more aware of their learners’ interests, giving them the opportunity to better understand the significance of their learners’ activities. As asserted by Malaguzzi (1998), children employ hundred symbolic languages to communicate their thoughts and relational pedagogy makes it possible for their educators to capture the meanings underlying their tasks. These tasks reflect the level at which the children are in their thinking and enable the educators to see what the child wants to achieve. Thus, the educator supports the children to reach the criteria that they set for themselves rather than outcomes imposed from outside (Papatheodorou & Moyles, 2009).

The fifth positive characteristic of relational pedagogy is that it can also help to engage those learners who may find it hard to get involved in learning activities. This argument was already debated in the theoretical framework, thus, here, it is only briefly discussed. As explained by Kalliala (2014), it would be unrealistic to say that all the children in the setting take the initiative to start an activity and interact with others. Given that some children may require the constant attention of the educator and that unintentionally the educator may give consideration to a child who gets more easily engaged, the children who tend to be more passive than their peers may become “invisible” (Kalliala, 2014, p. 9) in the setting. For instance, the

pupil called Varpu in Kalliala (2014) finds it hard to initiate play on her own or with other children. However, when there are group activities supported by an adult, such as group singing, she gets easily engrossed and her attitude changes completely. This suggests that these children can achieve and learn much more when they are encouraged and guided by their educator in a supportive atmosphere.

In relational pedagogy, the children are enabled to use relationships as the basic medium to accomplish a common task. They are given the opportunity to learn how to negotiate and agree among themselves while engaged in a common activity. This scenario brings about the sixth advantage that is generated by relational pedagogy, which is that of fostering in the children the soft skills and interpersonal aptitudes that form part of the essential competencies needed for active participation in the 21st century. As suggested in the 2015 Joint Report (The Council of the European Union, 2015/C 417/04) issued by the Council and the Commission of the EU on the implementation of its education and training strategic framework, such skills are as indispensable as much as academic content. On the same lines, Schleicher (2011), asserts that 21st century learning has to enable learners to be “versatilists” (p. 43); people who continue to acquire new knowledge and skills beyond formal education and apply their competencies to new circumstances so as to advance their situation and take an active part in society. As stated by Schleicher (2011), this can take place if contemporary education equips students with three different kinds of abilities. First, thinking abilities encompassing problem-solving, decision-making and creative and critical thinking strategies. Second, operational abilities, mainly sound knowledge and application of new technologies, communication, and collaboration. Third, interpersonal competencies that lead to active citizenry. Thus, employing relational pedagogy in early years settings creates an optimal learning environment for the fostering all three types of abilities.

However, it has to be acknowledged that adopting relational pedagogy is not a trivial task (Hedges & Cooper, 2018). Educators need to have the professional knowledge to determine when the learners are in their ZPD by observing them while they play and engaging with them in their working theories without hindering and controlling their agency (Goouch, 2009; Hedges & Cooper, 2018). As debated in the theoretical framework, within the ZPD, the educator uses mediation to direct the child towards the acquisition of a higher level of cognition. Thus, borrowing the notion used by Cheeseman (2017) in relation to infants, educators need to be “respons-able” (p.56) enough to recognise the appropriate moment when to assist and how to assist. Unfortunately, the ZPD is sometimes interpreted in terms of how many tasks the child is able to accomplish rather than in terms of the change in understanding (Chaiklin, 2003). There are also situations in which the task is simplified to the extent that it does not offer any challenge to the child (Veraksa et al., 2016). This implies that educators have to be knowledgeable enough to create a stimulating and welcoming environment for the children to feel confident to engage in learning experiences with others (Murray, 2018a). It also sustains the argument in Reeves and Le Mare (2017) that training for educators in this area is as important as the training they are given in the curriculum.

As can be deduced, relational pedagogy necessitates authentic interactions between the educator and the children to ensure that they are intentional and meaningful for the child. With this in mind, the next section focuses on dialogues, which lie at the heart of such interactions.

2.4.2 Meaningful and intentional dialogues.

The benefits that the dialogic approach can have on concept formation were already recognised in Classical Antiquity. Plato (427-347 B.C.), for instance, in his works, reveal the validity of the eclectic method used by his teacher Socrates to analyse the opinions of others, challenge long-held principles and encourage the discovery of further knowledge (Benson, 2006;

Nutbrown & Clough, 2014). The actual use of dialogue to enrich the thinking potential of young children can also be perceived in the works of English ECE pioneers such as Robert Owen (1771-1858) who gave the possibility to his learners to engage in conversations with their instructors and pose their questions (Altfest, 1977).

Yet, it was through sociocultural theory of Vygotsky that the valuable function of dialogue in thinking and learning was vastly exposed. Vygotsky (1978) asserts that “By giving our students practice in talking with others, we give them frames for thinking on their own” (p. 19). Dialogues form an essential part of the mediation that occurs within the ZPD (Vygotsky, 1978). It is used as a symbolic tool to challenge the learners to think further, leading them to their next target ability.

Bruner (1996) also reminds us that dialogue can lead children to reflect on their learning. Through a “mutualist and dialectical” (Bruner, 1996, p. 57) pedagogy, learners can be led to test their hypotheses, reflect critically on what they are doing and look for more feasible plans of action. The “Socratic dialogue” (Bruner, 1996, p. 5) enables children to learn to ask the questions themselves, seek for ways to answer their own questions and foster independent learning skills.

There is a strong emphasis in recent literature to look at dialogues as an “interactional configuration based on exchanges among students and educators that go beyond the predominantly monologic approaches of classroom talk” (van der Veen & van Oers, 2017, p.1). van der Veen and van Oers (2017) note that even though for the past thirty years, research has constantly proved that meaningful classroom discussions are associated with effective learning, today most classroom talk is still predominantly dominated by closed interactions, with the result that children are still not being given enough space to share their thoughts and advance their

reasoning. Regarding early years, this may be the result of the lack of attention that this area of research has been given by the sector, which is also reflected in the dearth of knowledge that educators have in terms of making use of language to enable their young learners to cultivate their thinking skills (Gjems, 2010). However, another major causing factor is the increasing narrowing of statutory curricula for ECEC which are becoming more focused on the acquisition of content knowledge linked to the three Rs, as in the English context (Bates, 2019; Roberts-Holmes & Bradbury, 2017). The EYFS (DfE, 2015) seems to be focused on perpetuating and legitimising the discourses that reinforce “the accountability and audit culture” (Wood, 2019, p. 785) rather than on offering opportunities to the children to work collaboratively on a working theory.

A growing body of literature confirms that meaningful dialogic interactions constitute one of the core elements of high-quality ECEC provision for they influence the learners’ thinking, learning in its broad sense, self-regulation and metacognition (Alexander, 2017; Ring & O’Sullivan, 2018; Whitebread, Pino-Pasternak & Coltman, 2015). Thus, as suggested by Van der Veen, de Mey, van Kruistum and van Oers (2017), dialogues in ECE settings have to be meaningful and purposeful.

Referring specifically to thinking, dialogic teaching empowers young children to foster various skills. To start with, dialogues can serve to foster reasoning, as shown in the study conducted by Gjems (2010) with Norwegian three to five-year-olds. In this case, through dialogues that included interrogative words and open-ended questions, young learners were enabled to reflect and elaborate on their replies. In virtue of this, Gjems (2010) states that once educators recognise the stimulus that this typology of questions gives to the children to express their thoughts, they will insert them more frequently in their daily conversations with the children.

In addition, dialogues that include thought-provoking questions can enable young children to use their imagination and act accordingly. This can be seen in the study conducted on Possibility Thinking by Chappell, Craft, Burnard and Cremin (2008) which focuses on the nature of the questions asked and offers a typology of questioning ranging from “leading questions” (p. 276) to “service questions” (p. 276) and to “follow-through questions” (p. 276). The leading question is the main question that directs the endeavour, the service questions serve to come up with possible approaches to answer the main question and the follow-through questions support thinking in the accomplishment of the feasible approaches. The researchers conclude that such conversational questions help children to pose and address their queries by being imaginative and creative.

Furthermore, dialogues can serve as a tool for young children to foster shared thinking, critical thinking and problem-solving skills. This is elucidated in Daniel, Gagnon and Pettier (2012) who have conducted a longitudinal research over two years consisting of Philosophy for Children sessions with five-year-old children. They claim that the participant children had more advanced dialogical critical thinking skills, specifically, logic, creativity and metacognition. In addition, Dovigo (2016) explains that the fostering of argumentation can start from kindergarten settings. Dovigo (2016) asserts that this can occur when educators are able enough to adopt a secondary role in arguments between children, allowing them to express themselves and negotiate opposing positions. The anecdote in Peters and Davis (2015) of the discussions between the adults and the learners about how to catch the mice in the shed of the learning centre shows how shared thinking through dialogue enables children to foster problem-solving skills. Shared thinking between the adults and the learners led the participants to act in order to solve a common problem.

Nevertheless, Bateman (2013) claims that besides asking open-ended questions, educators must also pay attention to the nature of the dialogue itself. She argues that aspects such as the answers that educators give to their learners also play an important part in the construction of new understandings and therefore, these also have to be meaningful. Moreover, Gjems (2010) observes that in Kindergarten settings, educators may unintentionally stop interacting with a child who is trying to express herself because another, who may be more demanding, shifts their attention. Gjems (2010) adds that children up till six years of age take longer to construct their replies and thus suggests that educators have to remember to give them sufficient time to articulate their thoughts.

Besides thinking, dyadic interactions also assist young children to integrate better within their ECEC setting. In their observations of interactions between infants and their educators, White, Peter and Redder (2015) indicate how dialogue enables very young children to become part of the group and to get actively involved in daily activities. In addition, dialogues are also used as a medium to enable young learners to acquire other skills. In their study, Towson, Fetting, Fleury and Abarca (2017) show how adults can use the strategy of dialogic reading to enable young learners to develop pre-reading skills.

Other studies show that those children whose educators used to engage them in thoughtful conversations while in preschool, performed better academically than their counterparts. This is portrayed in the results of the state-commissioned EPPE study (Sylva et al., 2004). Among other things, this study accentuates the direct correlation between dialogical transactions, defined as “sustained shared thinking” (Siraj-Blatchford & Sylva, 2004, p. 713) and the children’s performance in the first years of their primary education. This is encouraging and provides another reason that justifies the use of meaningful and purposeful dialogues in the settings. However, it has to be interpreted as an additional reason and not as the chief reason,

because as demonstrated by the above arguments, the use of dialogues offers multiple advantages that go beyond academic performance. In addition, as asserted by Wood (2007, 2019), findings of government-delegated studies such as EPPE have to be interpreted with a critical mindset since they do not draw on a large body of ECEC research evidence and their methodological considerations are not critically analysed as in the case of independent research. Thus, in this case, there is the possibility that ‘sustained shared thinking’ could have been framed instrumentally by policymakers to promote adult-led interactions that channel pedagogy towards the acquisition of the predetermined outcomes of the EYFS (DfE, 2017).

In view of the above, it is clear that meaningful and intentional dialogues are a vital element in a pedagogy that aims at cultivating thinking in young children. In a relational pedagogical framework characterised by purposeful dialogues, the working partners engage in a process of “interthinking” (Littleton & Mercer, 2013, p. 1) in which language is used as a mode of representation to bring together individual minds in order to co-construct new meaning within the social context. In the next section, the discussion elaborates on the cognitive co-constructive process of new meaning.

2.4.3 The co-construction of new meaning.

According to sociocultural theory, the learning environment is viewed as a “shared problem space, inviting the students to participate in a process of negotiation and co-construction of knowledge” (Haenen, Schrijnemakers & Stufkens, 2003, p. 246). This view of learning has crucial implications on the roles of the educator and the child, both when the learning process involves only the educator and the child and also when the learning process involves the collaboration of a group of children.

I shall start to discuss the concept in relation to the situation involving the educator and the child. The notion of co-construction rejects the traditional approach of the educator as the ‘sage on the stage’ (Morrison, 2014, p. 1), where the educator is placed on a higher level than the child. Yet, it also moves beyond the view of the educator as the ‘guide on the side’ (Morrison, 2014, p. 1), where the educator is still perceived to be in possession of a higher level of expertise than the child.

In fact, it recognises and respects the view of the child as a competent partner who has the same significant role as the educator (Gjems, 2011). The knowledge constructed in the concerted venture depends on the contribution of both partakers. Thus, the input of both interlocutors is given the same weight, even if it sometimes consists of simple utterances, as these can still be laden with meaning (Pramling & Säljö, 2015). Biesta and Burbules (2004) explain this process as “transactional constructivism” (p. 11), which means that the new meaning evolves from the mutual collaboration between the learner and the educator while working on a common task and using a common approach of communication. The same concept is termed by Salomon (1993) as “distributed cognitions” (p. xiii). This mutual communication can consist of meaningful dialogues as well as other multimodal approaches such as pose and gaze (Cremin, Flewitt, Swann, Faulkner & Kucirkova, 2018).

During the process of co-construction, educators do not merely give out the material and symbolic tools to their learners but show them how to put them to use in order to further their knowledge (Hedges & Cooper, 2018). Hedges and Cooper (2018) draw upon their recent research to argue that it is useless to tell the learners that they can make use of information sites to gain more knowledge about a particular topic without making use of the opportunities that arise to engage with them in searches. As maintained by Hedges and Cooper (2018), it is through these co-constructive activities and the dialogues that these generate that educators can

actually show their learners how to critically evaluate the information they find, for instance on Wikipedia, and how they can then evaluate it and consequently apply it to deal or solve everyday matters.

As explained earlier, co-construction also occurs between children while they are working on a collaborative endeavour. Vygotsky (1978) reminds us that in the ZPD, children can be enabled to move towards their potential level of competence while they are working in partnership with more skilful peers. In fact, children can have funds of knowledge (González et al., 2005; Moll, Amanti, Neff & González, 1992) that enable them to be the more knowledgeable person in a group that is pursuing a particular inquiry. Thus, as advised by Chesworth (2016), it is important that educators observe, recognise and celebrate the diverse funds of knowledge which the children relocate from their households to the setting. In such an environment, the children feel more accepted, comfortable to show their peers what they know and take a more active role in the shared inquiry of the group.

Thus, co-construction of new meaning does not stop with collaboration. It leads to intersubjectivity, defined by Göncü (1993) as “shared understanding established between the participants of an activity” (p. 99). Intersubjectivity changes as the activity evolves because new understandings emerge alongside the progression of the activity (Rommetveit, 1983). Thus, while being engaged in a shared inquiry, children form an intersubjective understanding at every step of the project, which enables them to proceed to the following step (Mauritzson & Shiyan, 2018).

As can be deduced from the above discussion, optimal support for the cultivation of thinking necessitates that new meaning is co-constructed between all the partners taking part in the collective inquiry. This indicates that the curriculum evolves spontaneously according to

these shared interactions and their intersubjective understandings. The curriculum is the concept to be discussed in the next section.

2.4.4 Curriculum.

The curriculum is the final concept that I identify to be salient in creating a learning environment that advances thinking. Here I argue that the curriculum has to emerge from the children's inquiries; thus emergent, and inquiry-based so as to facilitate collaborative experiential learning. The emergent aspect is discussed first.

2.4.4.1 The emergent curriculum.

As accentuated by Ring and O'Sullivan (2018), current western ECEC systems are suffering from the "schoolification epidemic" (p. 402). A quick snapshot of these systems reveal the current pressure being exerted by policymakers on educators to move away from an ECEC curricula based on play and the acquisition of learning dispositions such as thinking to one that is predominantly prescribed and focused on the acquisition of pre-literacy and pre-numeracy skills (Cremin et al., 2018; Hedges & Cooper, 2018; Kelley, 2018; Ring & O'Sullivan, 2018). Referring, for instance, to England, the *Bold Beginnings* report (Office for Standards in Education [OfSTED], 2017) specifically indicates that the main purpose of the curriculum programme in ECEC should be the development of reading, writing and mathematics and seems to take little notice of other aspects of learning. By the same token, ECEC policies in Ireland are simply considering the provision as a stepping stone for formal learning (Ring & O'Sullivan, 2018). Considering that the OECD (2019) has embarked on the IELS study, it may be deduced that those in favour of a prescribed curriculum in early years will persevere with their intentions in the coming years. The most alarming situation is when even preschool educators believe that this is the way forward (Wood, 2014). Such situation is portrayed in the Irish study conducted by Ring and O'Sullivan (2018) in which it is evident that ECEC educators overemphasize the

acquisition of literacy and numeracy skills far more than that of other competencies. However, it has to be acknowledged that educators may be coerced into giving more weight to literacy and numeracy skills by the pressure that is exerted on them by policymakers (Murray, 2017b). They may be “caught” (Wood, 2019, p. 785) in the middle of the understated conflicting discourses in policies. As asserted by Wood (2019), these policies may give the educators the superficial impression that they can design their curriculum programmes according to their expertise but in reality, they are driven to abide by imposed regulations and standards that perpetuate the hegemony of the government on education.

Referring to Malta, although the last decade has seen a shift in the way policymakers look at the ECEC sector, the excessive emphasis on the acquisition of the basic 3Rs is highly prevalent, especially in schools that are not run by the state (MEDE, 2013b). Although the preliminary findings of the most recent local research on parent’s matters in ECEC indicate that the situation is slowly changing, there is still a substantial amount of parents who consider the two years of kindergarten as a preparatory period for formal schooling; some even expecting that their children would be given homework (Sollars, 2019). A radical change in mentality would necessitate the “concerted effort of many informed, like-minded stakeholders” (Sollars, 2018, p. 10) in “questioning traditions, shaking cultural beliefs and modifying practices” (Sollars, 2018, p. 10). But, perhaps the country in general, including the stakeholders, is still not ready for this transformation in mindset given that the Ministry, has still not decided to publish a strategic document prepared by Sollars in 2014 (V. Sollars, personal communication, May 25, 2019) that suggests approaches, based on current ECE literature, that are quite different from the conventional ones (Sollars, 2018).

Ironically, this scenario reminds us of the ardent critique that Dewey (1938) made against the American educational system at that time, which he blamed for focusing on the mere

transmission of knowledge. Dewey (1938) asserted that its sole aims were to purport social conformity and to prepare children for the workforce rather than giving them the thinking tools to become critical and reflective. Almost a century ago, Dewey (1938) had already illuminated educators that the same content knowledge can be more significantly acquired and assimilated through experiential learning methodologies grounded on thinking.

Analogously but more recently, it also reminds us of the harsh disapproval that Holt (1968, 1991) shows towards the education system that takes place in schools. Holt (1968, 1991) argues that schools destroy the natural inclination that children have towards learning from exploration. Moreover, Holt (1968, 1991) asserts that instead of showing the children how to transform their own mistakes into new learning challenges and opportunities, the school persuades them that mistakes are mocked and consequently, the relevance between what is learned at school and their everyday experiences is weakened.

By providing the above arguments, there is no implication that the acquisition of pre-literacy and pre-numeracy skills are not important and should not take place in early years. What is inferred here is that they do not have to be considered as the core purpose of ECEC but only part of its programme. After all, the foundation skills of literacy and numeracy are much broader than the learning of letters and numbers. For instance, in literacy, there are phonological awareness, print awareness and oral language that need to be acquired besides reading (Pullen & Justice, 2003).

Instead, it may be more appropriate to look at the fundamental aim of ECEC as that of enabling young learners to develop their “working theories” as advocated in Te Whāriki (MoE, 2017, p. 23). The acquisition of basic skills has to be instilled in the learning programme to support the learners while they are testing their ideas and weaving new meanings (Hedges,

2014). Children need to have the space to express their new meanings using multimodal ways, which aren't always related to letters and numbers (Malaguzzi, 1993). At this point, it is important to unpack the “working theories” (MoE, 2017, p. 23) concept.

The construct ‘working theories’ was introduced in the first publication of the New Zealand early childhood curriculum Te Whāriki (MoE, 1996, p. 44) and together with dispositions, composes the two principal outcomes of the curriculum. In the 2017 publication, they are defined as:

Working theories are the evolving ideas and understandings that children develop as they use their existing knowledge to try to make sense of new experiences. Children are most likely to generate and refine working theories in learning environments where uncertainty is valued, inquiry is modelled, and making meaning is the goal.
(p.23)

In Te Whāriki (MoE, 2017), working theories are also specifically mentioned in the fourth goal of the exploration strand which states that the learning environment has to make it possible for children to “develop working theories for making sense of the natural, social, physical and material worlds” (p. 25).

The concept of working theories is grounded on the idea proposed in Claxton (1990) of “minitheories” (p.64) which resembles the hypotheses that we have about the world around us and which continue to change and evolve as a result of our learning (Lovatt & Hedges, 2015; Peters & Davis, 2011). Hence, the use of the word ‘working’ (Hedges, 2014). Although the concept of working theories has not been developed in the literature to the same extent as learning dispositions, various scholars have attempted to broaden the understanding of the term. Peters and Davis (2011, 2015), while recognising the constructivist perspective adopted by Claxton, look at how educators can advance the working theories of children by listening to them and considering the problem-solving strategies they come up with. Hedges (2014) looks at the

nature of working theories through a sociocultural lens and provides recommendations for educators on how they can engage with the learners to support them in their thinking. Hargraves (2014) affirms that it is not sufficient to look at the term from a constructivist or a socio-constructivist point of view and offers an additional interpretation based on complexity theory in order to outline the salient characteristics that have to be present in a learning setting to support the children while they pursue their working theories.

The growing body of literature on working theories, or as Davis et al. (2012) metaphorically define them; “islands of interest” (p. 1), indicate that they pave the way to the cultivation of various thinking skills in KG-aged children. First of all, working theories bring into play problem-solving thinking processes. An illustration is the anecdote describing Jack’s working theory on the healing of Billie’s ear infection in Hedges (2014). In this example, Jack connected his previous experience and knowledge of ear infections to theorise how Billie’s situation could be resolved.

Additionally, working theories support the cultivation of critical thinking as research suggests that they enable young learners to think logically, provide reasons and give explanations (Hedges, 2014). For instance, in Hargraves (2014), the children try to develop their theories on the cause of the recent earthquake. Hargraves (2014) also observes that working theories facilitate the fostering of persuasion, which is considered as a high quality thinking skill difficult to nurture. The researcher provides examples to show how children tend to use working theories to convince each other to take a different course of action such as to start sharing the materials available in the setting.

Hedges and Jones (2012) argue that working theories embody both the developing ideas as well as “tentative” (p. 36) ones. Thus, it may be possible to argue that by supporting

children's working theories, educators would encourage the fostering of intuitive thinking which is defined by Bruner (1977) as "the intellectual technique of arriving at plausible but tentative formulations without going through the analytic steps by which such formulations would be found to be valid or invalid conclusions" (p. 13). Bruner (1977) asserts that albeit this thinking skill tends to be discounted, it is significant as it enables children to nurture other thinking skills related to metacognition, such as risk-taking, the disposition to accept criticism and to learn from own mistakes.

As a result of intuitive thinking, children have the possibility of cultivating analytic thinking (Bruner, 1977). They learn to test their spontaneous solutions, which involve critical thinking and reasoning. Thus, children learn to justify their beliefs and to communicate their results to others (Fisher, 1999). This communication becomes more elaborated with the growing development of language in children (Peters and Davis, 2015). As children share their experiences with others and are given ample opportunities to investigate their working theories, they feel more confident to be creative and imagine alternatives. Hence, working theories provide children with the opportunity to advance their creative thinking skills as well.

The expertise of the educator is therefore crucial in providing the appropriate support for learners to progress on their working theories (Lovatt & Hedges, 2015). First of all, and perhaps most significantly, educators have to dedicate ample time to interact with and listen to the learners to identify their true interests (Rinaldi, 2006). Hedges and Cooper (2016) also suggest educators go beyond observing the children in the learning setting. They report that when the educators in the study interacted with the parents and visited the children's homes, they were better able to understand the children's interests. Thus, cultural issues are also taken into consideration and therefore learning becomes more contextualised. The study conducted in India with three to six-year-old children by Vengopal (2015) describes how the curriculum

became more relevant and meaningful when the school changed its vision to incorporate the cultural aspects of the children attending that particular ECEC setting.

Thus, identifying the children's interests may eliminate the risk of having educators "Hijacking the direction" (Peters & Davis, 2011, p. 12) of children's thinking. It may happen that even with all good intentions, educators may pick on one of the interests mentioned by the children and twist it according to their agenda or deliberately put aside tough topics raised by the learners which they are afraid to discuss in the setting. An example of this situation is portrayed in Peters and Davis (2015) who explain how one of the educators, Eleonor, picked on the interest of a child called Ferdi in good and evil and instead of catering for this need, organised a Harry Potter day on wizards. As a result, Ferdi was not interested in the activity organised by his educator because it did not address his actual interest. Instead, the children have to be given the opportunity to explore themes that may seem strange to adults, such as in Hill (2015), in which the children explore death and dying. Addressing these working theories allows the children to make more sense of their experiences and the world around them (Hill & Wood, 2019).

Sometimes, as argued by Areljung and Kelly-Ware (2017), educators prefer to explore some children's working theories over those of others deliberately. Areljung and Kelly-Ware (2017) argue that such choices reflect the power and control that educators have in the settings and affect whether the children's working theories are investigated immediately, at a later time or completely ignored. The authors report that such selections depend on whether the working theory challenges the educator's own knowledge and skills, whether it puts at risk the rules of the setting and whether it puts in jeopardy the relationships between people in the setting.

Secondly, it is important that educators do not undervalue the working theories of the children for they mirror the complexity of children's thinking. When educators underestimate

children's ideas, they may lessen the children's sense of agency and thinking dispositions associated with metacognition, mainly, curiosity and enthusiasm. As shown in Peters and Davis (2015), although the ideas that four-year-old Hugh had to catch the mice in the farm at the Playcentre may have seemed useless to adults, they still reflected his problem-solving skills and engaged the other children in shared thinking to solve an issue that was affecting the whole community.

Therefore, it is essential for educators to have the necessary training on how to develop the learners' working theories (Hedges, 2011, 2012). Moreover, Hargraves (2014) adds that the success of the development of a working theory also depends on the availability and quality of the resources that educators provide for their learners in the settings. The children in her study got the stimulus to pursue a working theory from the materials around them, which they connected to create a logical representation.

Bearing in mind the above arguments, working theories can indeed be, as argued by Wood and Hedges (2016) the approach that strikes a balance between the different levels of "curriculum content, coherence and control" (p. 387) that exist between various ECE systems. Wood and Hedges (2016) refer to England's mandated EYFS framework (DfE, 2012) and Te Whāriki (MoE, 1996) in New Zealand as the two opposing extremes with regards to these three aspects of the curriculum. They propose working theories as the third curricular approach that can ascertain that the children can be engaged in complex dialogues and knowledge co-construction that foster their thinking skills while at the same time can offer the possibility to educators to filter in academic content that can enable the children to untie the "knots" (Edwards, 1998, p. 187) they encounter during the process. This position concurs with that in Hedges and Cooper (2014) that working theories can be the solution to harmonise the current trends in ECE

discourse on accountability and assessment with the interpretation of the child as a dynamic co-creator of his or her learning journey.

Thus, an emergent curriculum may provide the appropriate framework to support the cultivation of thinking by allowing the children to develop their working theories. An emergent curriculum can be defined as “a learner-centred curriculum in which educators plan learning experiences based on children’s interests and sociocultural backgrounds” (Rosales, 2015, p. 120). The curriculum is not predefined by the educator or prescribed by external policies (Vajargah, Arefi & Taraghija, 2010). Rather, it is contextualised to suit the working theories of the child. In addition, given that, as argued earlier, new learning is co-constructed or negotiated between the children and their educators, it can be said that the curriculum is initiated by the child and then, framed by the educator (Vajargah et al., 2010). The emergent curriculum reflects the philosophy embraced by the Reggio Emilia approach that considers children as competent and active agents (Edwards, Gandini, & Forman, 1998; Malaguzzi, 1998; New, 1998).

Various ECE literature discusses the effectiveness of the emergent curriculum (Edwards, Gandini & Forman, 2012; Jones, 2012; Wien, 2014). An authentic example is the experience narrated in Sweeny and Fillmore (2018) which shows how children’s interests can lead to the design of a broad framework which offers multiple opportunities for new meanings to emerge through social collaboration. Other literature narrates the actual first-hand experiences of the emergent curriculum and the impact that it even had on educators. For instance, Vanegas-Grimaud (2017) describes how the application of the emergent curriculum in her setting brought about a change in her perspective on the approach since she realised that the children’s interests can actually lead to the emergence of new understandings.

Hyun and Marshall (2003) suggest two sociocultural interpretations of the emergent curriculum. The first form is that of a curriculum that is entirely based on the learning experiences produced through social thoughtful engagements between the learners and their educators. The second variant is slightly different because it is normally based on specific pedagogical strategies, for instance, a thematic approach that allows for the integration of subject content within the learning experiences. Sheerer, Dettore and Cyphers (1996) refer to the second variant as the thematic approach rather than as a second interpretation of the emergent curriculum. Sheerer et al. (1996) argue in favour of a curriculum that combines thematic and emergent approaches, in which the topic serves as a learning framework and the actual learning emerges within that framework. In view of the above, the first interpretation given by Hyun and Marshall (2003) may favour the fostering of thinking skills more than the others. Learning emerges from the interests of the children and is weaved through the social interactions of the settings. In addition, learning has to be based on experience (Dewey, 1916). In the next section, the debate focuses on IBL, which is the second aspect of the curriculum that favours the advancement of thinking in young children.

2.4.4.2 The inquiry-based curriculum.

It follows that for the support of concept formation, the emergent curriculum is complemented by IBL because it is an approach that recognises the value of direct experience of the learner in the acquisition of new knowledge and meaning-making (Stacey, 2018). In ECEC, the implementation of IBL approaches to support thinking in young children is not new. In the early seventeenth century, Comenius (1592-1670) (1631/1896) specified that to cultivate and enrich thought in young children, educational activities have to be grounded on learning through the senses and practical experiences. These perspectives inspired Friedrich Froebel (1782 - 1852) and Maria Montessori (1870 - 1952) who both built their approaches on multi-sensory

learning. Dewey (1899) goes a step further and states that subject matter must be based on concrete experiences instead of intellectual or ethical principles, as advocated by Froebel (1901).

Pedaste et al. (2015) define IBL as “a process of discovering new causal relations, with the learner formulating hypotheses and testing them by conducting experiments and/or making observations” (p. 48). As opposed to traditional instruction which tends to be more concerned about the acquisition of subject content, IBL puts more emphasis on the process in which new learning and meaning are generated. Referring to the framework proposed by Pedaste et al. (2015), the IBL process consists of four consecutive phases: Orientation; Conceptualisation; Investigation and Conclusion. Learners move through the four phases in a linear process but can return to previous stages if their conclusions lead them to generate new hypotheses that necessitate further investigation. Communication with others consists of sharing conclusions and results.

The definition and the process proposed by Pedaste et al. (2015) project IBL as a systematic process that follows a set of pre-defined stages as in scientific experiments. It also portrays IBL from the constructivist perspective which perceives individual children as solitary explorers who follow their personal interests as advocated by Piaget (1950) and Bruner (1966). However, in this thesis, since it is grounded on sociocultural principles, the concept of IBL differs in certain aspects from those mentioned above since it considers learning as taking place in a social context where meaning-making emerges from collaborative endeavours (Luff, 2018). Learners work collaboratively on a common project rather than follow their interests alone. This concept of IBL echoes Dewey’s discourse on experiential learning and project method (Dewey, 1938).

Experiential learning signifies learning through direct exploration of the environment (Dewey, 1938). Learning from experience is one of the systems that cultivate learning power dispositions from birth (Claxton, 2015). Evidence from neuroscience shows that during the first twelve months, the brain produces a large number of dendrites and its plasticity makes it possible for the child to adjust to new and diverse experiences (Shonkoff, 2015; Shonkoff and Philips, 2000). These experiences enable the neurons of the young brain to form new synapses, develop new dendrites and make connections, which lead to further learning (Brierley, 1994; Shonkoff and Philips, 2000).

Experiential learning denotes learning by doing, investigating and experimenting, which lead to the creation of new knowledge (Kolb, 2015). Yet, experiential learning goes beyond hands-on experiences because it emphasises the importance of reflection on action. Experiential learning flourishes reflective thinking as it permits learners to reflect on what they are immersed exploring together, share their views and accordingly, plan further action (Dewey, 1933). Hence, experiential learning enables learners to reason as well as to reflect; “turning a subject over in the mind and giving it serious and consecutive consideration” (Dewey, 1933, p. 3). This reflection stimulates further thinking, which catalyses subsequent action taken by the group. It is through this process that reflection and its subsequent action results in further knowledge (Biesta, 2014; Kolb, 2015). In fact, Dewey (1938) reminds us that it is not enough to have children engaged in activities if these experiences do not stimulate them to get involved in subsequent tasks that can broaden their knowledge.

An additional salient point regarding experiential learning that is clarified by Dewey (1938) is that it is pointless to involve the children in such activities if they do not understand and feel the need to go after that interest. Dewey (1938) asserts that the aims which “direct ... activities in the learning process” (p. 67) have to transpire from the questions of the learners and

this further highlights the importance of having an emergent curriculum which provides the initial framework for children's questions and interests to come to light. Moreover, these purposes have to be continuously shared and negotiated between the learners and their educator in response to new learning.

Another crucial difference that characterizes IBL when this is conceived through a sociocultural perspective is that the inquiry is not an isolated venture that individual children pursue on their own but a "co-operative enterprise" (Dewey, 1938, p. 72) that is followed by the learners and their educator together. Even if, as explained by Rankin (1998), children work in small groups on different tasks, they all contribute towards a common goal. In kindergarten, such endeavour can be translated into practice with the implementation of project-based work (Chard, Kogan & Castillo, 2017; Helm & Katz, 2011; Katz, Chard & Kogan, 2014).

2.4.5 Conceptual framework.

To sum up, the creation of a learning environment that favours a pedagogy of thinking that is based on sociocultural perspectives and that respects the competency of the child requires four key concepts. These are relational pedagogy (Papatheodorou, 2009), dialogues that are meaningful and purposeful (van der Veen et al., 2017), new meanings that are weaved through a co-constructive process between all partners (Haenen et al., 2003) and a curriculum that is both emergent (Rosales, 2015) and inquiry-based (Stacey, 2018). Consequently, the four constructs that can activate a pedagogy of thinking can form a conceptual framework (Fig. 2.1). Reference to this conceptual framework is made again in the Conclusion Chapter in view of the findings of this research.

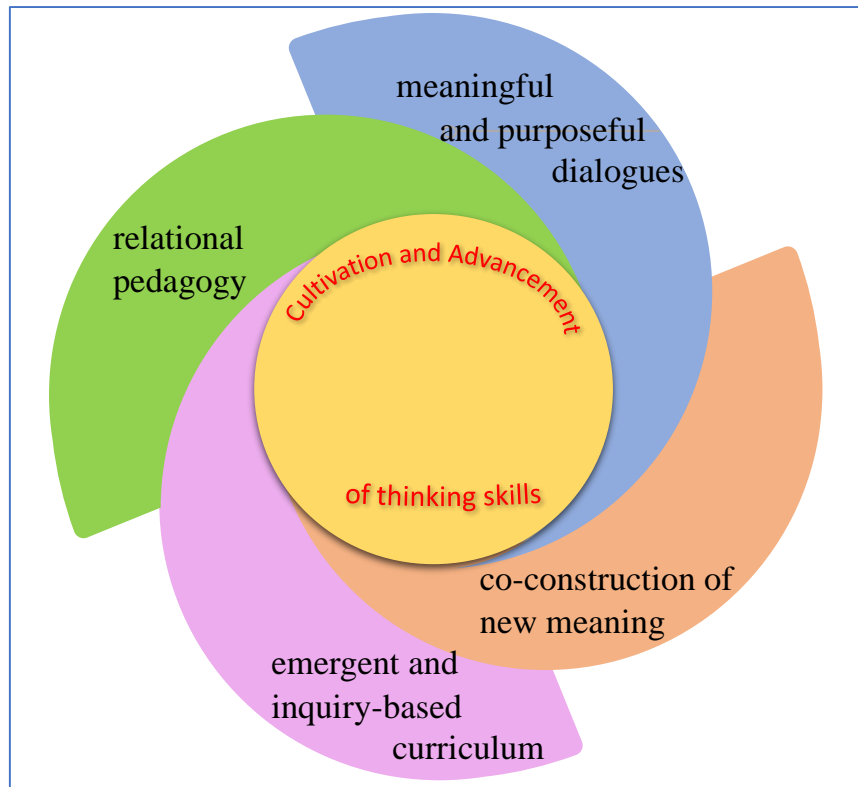


Figure 2.1: Conceptual framework for a pedagogy of thinking

2.5 Project-based Work and The Project Approach

The discussion in this section supports the argument that project-based work may be the approach that educators can implement in order to foster a pedagogy of thinking in the setting. The section sets off by debating project-based work and then narrows down the focus on the Project Approach (Katz & Chard, 2014) as it is posited that its methodology incorporates and translates the constructs of the conceptual framework in actual practice.

Project-based work can be traced back to the project method proposed by Dewey (1897) as one of the main features of the Progressive Education Movement. Later, it was further elaborated by Dewey's successor Kilpatrick (1918) who accentuated that the interdisciplinary nature of the project gives children the possibility to listen to and then analyse an ample variety of views and thoughts on the same inquiry.

In England, Susan Isaacs (1885-1848) (1933), a follower of Dewey's philosophy, affirmed that children want to be active in order to discover and explore new knowledge themselves rather than remain passive and be presented with prearranged information by their educators. Similar views were also advocated in *The Hadow Report* (His Majesty's Stationery Office, 1931) which specified that "The curriculum is to be thought of in terms of activity and experience rather than knowledge to be acquired and facts to be stored" (Section 75). Direct experience through project work was then specifically emphasized in the *Plowden Report* (Her Majesty's Stationery Office, 1967) which maintained that in reality knowledge is not compartmentalised into subjects, and therefore education has to encourage learning as it happens in real life. Although subsequent policy documents such as the *Rose Report* (Rose, 2009) and *Bold Beginnings* (OfSTED, 2017) lay more emphasis on the acquisition of basic literacy skills rather than on thinking skills and dispositions, there is a strong body of literature evincing that high-quality project work makes learning visible and relevant for the children in a way that they foster their thinking potential by undertaking tasks that interest them and at the same time assimilate the academic content that is intentionally integrated by the educator while the project unfolds (Chard et al., 2017; Edwards et al., 1998; Hedges, 2014; Wood & Hedges, 2016).

One of the approaches that are practical and effective in translating project-based work into practice in kindergarten settings is the Project Approach (Katz & Chard, 2014). It is grounded on Dewey's project method (Dewey, 1938) and was first developed by Lilian G. Katz and Sylvia C. Chard (1989) thirty years ago in America. A project is "an extended and an in-depth investigation of a real-world topic" (Chard et al., 2017, p. 1) that provides the framework for the children to "gain deep understanding and knowledge by seeking answers to their questions through rich sensory, first-hand investigations" (Chard et al., 2017, p. 1). All the

children in the setting are involved in the project but can work in small groups on different aspects of the project according to their interests (Katz et al., 2014).

The Project Approach (Katz & Chard, 2014) offers important insights for the affordances it holds for implementing a pedagogy of thinking in the setting. Referring back to the conceptual framework presented earlier, the approach offers the possibility of translating the theoretical constructs into practice. To start with, it embraces relational pedagogy because it brings the children together to work on a shared task. The children know that the educator is there to support them in the completion of their task rather than to judge them. Hence, it supports the social and emotional aspects of development, which are known to be critical for learning (Meggitt, 2008). Bearing in mind that the learning environment is the third teacher, the setting stimulates the curiosity of the children and allows them to express themselves, their thoughts and understandings (Gandini, 1998). Besides, the approach increases the likelihood for children to experience learning by exploring outdoor environments away from the confined setting. Outdoor exploratory endeavours facilitate the cultivation of thinking dispositions associated with metacognition such as courage, resilience and determination, which can be difficult to acquire through indoor tasks due to lack of opportunity (Frost & Sutterby, 2017; Waite, 2017).

With regards to the criterion of meaningful and intentional dialogues, the approach ascertains that verbal interactions are not superficial but are instead instrumental in enabling children to reflect, argue and move through their ZPD (van der Veen & van Oers, 2017). Engaging with the children in meaningful conversations that encourage them to think and reflect on their interests and listening to them as they are interacting with their peers, further elucidate the educator's knowledge about the children's interests and pinpoint any misunderstandings that they may have (Stacey, 2018).

Referring to the co-construction of new meaning, it is evident that the approach considers the role of the child and the educator as equally significant and equally contributing to the generation of new understandings (Gjems, 2011). Knowledge is not imparted by the educator to the children as if they were empty containers which need to be filled up (Holt, 1991). Instead, it is knit by both partners in synchronization while the project unfolds.

Furthermore, the approach supports an emergent curriculum as the inquiry is elicited from the children's interests and contextual situation (Rosales, 2015). It also favours the implementation of the inquiry-based curriculum as it promotes learning through exploration (Chard et al., 2017).

2.6 Conclusion

This chapter comprised four key sections. The first one focused on sociocultural theory since it is the theoretical framework and on the social construct of the competent child to explain how I understand and interpret the construct in this thesis. The second section debated thinking by providing an overview of the literature on thinking and subsequently, focalising on the literature on thinking in early childhood. It also problematised the construct of knowledge and debates the complex link between thinking, thinking skills, learning and knowledge in ECEC. The third section discussed the four constructs that facilitate the advancement of thinking skills in young children and ends with a conceptual framework. In the final section, project-based work was discussed since it is the approach which the educators can use to translate into practice the four constructs of the conceptual framework, and consequently, advance the thinking skills of young children. While writing this chapter I felt that it had to be accompanied and reinforced by a subsequent policy review chapter. The purpose is to analyse whether the concepts drawn from the literature and research discussed in this chapter are mirrored in mandated policies.

Chapter 3: Policy Review

3.1 Introduction to Chapter

The purpose of this research was to achieve an informed understanding of the ways through which thinking in three and four-year-old children can be cultivated within the Maltese context. In order to provide a contemporary and contextualised understanding for this inquiry, the previous literature review had to be complemented with a policy review. Thus, a critical analysis of the relationship between theory, research and policy would also be presented.

A policy can be described as a strategic plan designed to fulfil specific expected results (Lam, 2018). At face value, educational policy documents can be regarded as written texts whose purpose is to improve pedagogy and understanding. However, as asserted by Bell and Stevenson (2006), “Policy is political: it is about the power to determine what is done” (p. 9). Thus, it is important to acknowledge that a policy text “does not arrive ‘out of the blue’, it has an interpretational and representational history” (Ball, 1993, p. 11). Moreover, it is placed within a specific society and educational establishment that is already laden with its history and interpretations, and its discourse influences the way the people of that context think and act (Bowe, Ball & Gold, 2017). In this policy review, my focus is on the “policy as discourse” (Ball, 1993, p.10) conceptualisation of policy rather than on the “policy as text” (Ball, 1993, p.10). This is driven by my interest in the meanings that are constructed in and by the policies (Bacchi, 2000). In view of this, I shall draw on the Policy Discourse Analysis Frame in Hyatt (2013), which is a framework designed for doctoral students to suit this purpose.

In this policy review, I draw on the curricula or frameworks of ECE systems in England, Australia, New Zealand and Malta. With regards to England, I draw on the EYFS (DfE, 2017) and EYFSP (STA, 2018). Referring to Australia, I refer to EYLF (AGDoE, 2009). As for New

Zealand, I consult Te Whāriki (MoE, 2017). The Maltese policy documents are the NCF (MEDE, 2012) and the LOF (DQSE, 2015), which are the two policy documents that are currently regulating pedagogy in the kindergarten years.

The choice of these documents depended on specific reasons. The Australian and New Zealand documents were selected because reference is made to the educational systems of these two countries in both the NCF (MEDE, 2012) and LOF (DQSE, 2015). Thus, since *Aistear* (National Council for Curriculum and Assessment, 2009), *Šiolta* (Department of Education and Skills, 2010) and the Reggio Emilia Approach (Edwards et al., 1998), were only mentioned in the LOF (DQSE, 2015), they were not taken into consideration in this policy review.

Even though there is no reference to England's ECE system or policies in the NCF (MEDE, 2012) and LOF (DQSE, 2015), the above-mentioned English policy documents were also analysed. This decision was based on the fact that it is well known that notwithstanding Malta became a republic in 1974, most of its systems still follow British structures (Bezzina, 2015; Cutajar, 2007). Education is no exception and therefore, its system, policies and curriculum are still highly influenced by the British system (Sollars, 2018). Further elaboration on this matter is provided in the next section on intertextuality.

This introduction is followed by five sections. Section 3.2 discusses the intertextuality that exists between the Maltese documents and the Australian, New Zealand and English documents. In Section 3.3, the discourse is analysed to elucidate the policies' perceptions of the potential of the child in the early years since this impinges on the significance that thinking and thinking skills are consequently attributed. Section 3.4 concentrates on the discourse related to assessment since it gives a strong indication of what is high on the priority list of policymakers. This section analyses whether thinking and thinking skills form part of the top priorities on the

policymakers' agenda. The explicit discourse related to thinking and thinking skills is the focus of Section 3.5. The final section, Section 3.6 evaluates these policy documents against the criteria that I have discussed in the literature review, which, I argue, constitute a conceptual framework that favours a pedagogy of thinking for KG-aged children. As a reminder, these criteria are relational pedagogy, meaningful and intentional dialogues, co-construction of new meaning and an emergent and inquiry-based curriculum. From Section 3.3 to Section 3.6, the discussion starts by analysing the topic in the foreign documents and then compares their position to the one portrayed in Maltese documents. Colour-coding is used in Sections 3.5 and 3.6 to support the arguments.

3.2 Intertextuality

Intertextuality highlights the connection between texts and it is applied to “support, reinforce and legitimise” (Hyatt, 2013, p. 841) the opinions of policymakers. Analysing the NCF (MEDE, 2012) and LOF (DQSE, 2015) for intertextuality, it is evident that Maltese policymakers have consulted and were influenced by the Australian and New Zealand's ECEC systems, policies and literature. The reference page in the NCF (MEDE, 2012, p. 71) indicates that with regards to early years, five texts were consulted (Figure 3.1). It has to be observed that four of these texts are directly connected to Australia and New Zealand.

REFERENCES

Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. London: Sage.

Department of Education & Early Childhood Development & Victorian Curriculum & Assessment Authority, (2009). *Victorian Early Years learning and development framework*.

For all children from birth to eight years. Australia: Dept of Education & Early Childhood Development & Victorian Curriculum & Assessment Authority. Available at www.education.vic.gov.au and <http://www.vcaa.vic.edu.au/earlyyears>.

Directorate for Quality and Standards in Education, Malta. (2009). *National policy and strategy for the attainment of core competences in primary education*. Malta: Ministry of Education, Culture, Youth & Sport.

Faude, T. (n.d.). *SMSC – Optional extras or hidden opportunities?* Available at: <http://www.nationaleducationtrust.net/SISL/Downloads/hiddenoppshortened.pdf>.

Eurydice (2009). *Key data on education in Europe 2009*. Brussels: Education, Audiovisual and Culture Executive Agency Available at: http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/105EN.pdf.

Grima, G., Camilleri, R., Chircop, S., Mallia C. & Ventura, F. (2005). *MATSEC: Strengthening National Examination System*. Malta: Ministry of Education, Youth and Employment.

Grima, G., Grech, L., Mallia, C., Mizzi, B., Vassallo, P., & Ventura, F. (2007). *Transition from Primary to Secondary Schools in Malta: A Review*. Malta: Ministry of Education, Culture, Youth and Sports.

Ministry of Education, Malta. (1999). *Creating the Future Together: National Minimum Curriculum*. Malta: Ministry of Education.

Seiberras, J., Borg, A., Miller, K., & Tabone, M. (2009). *Further and Higher Education Strategy 2020*, National Commission for Higher Education, Malta.

Office of the United Nations High Commissioner for Human Rights (1989). *United Nations Convention on the rights of the child*. Available at: <http://www2.ohchr.org/english/law/pdf/crc.pdf>

Podmore, V., Meade, A. & Kenlake Hendricks, A. (2006). *Aspects of quality in early childhood education*. Wellington: New Zealand Council for Educational Research. Available at: <http://www.nzcer.org.nz/pdfs/5885.pdf>

Simister, C.J. (2007). *How to teach thinking and learning skills: A practical programme for the whole school*. London: Sage.

Waddell, A.T. & McBride, R.M. (2008). *New research on early childhood education*. New York: Nova Science.

Wilks, A., Nyland, B., Chancellor, B. & Elliot, S. (2008). *Analysis of Curriculum/Learning Frameworks for the Early Years (Birth to Age 8)*. Victoria, Australia: Victorian Curriculum and Assessment Authority. Available at: http://www.education.vic.gov.au/edulibrary/public/earlychildhood/Early_Years_Lit_Review.pdf

Figure 3.1: Intertextuality between Australian and New Zealand texts and the NCF (MEDE, 2012, p. 71)

On the same lines, the LOF (DQSE, 2015) contains direct references to the ECEC systems in Australia and New Zealand (Figure 3.2). Using Hyatt’s (2013) analytic tool, it may be deduced that local policymakers refer to these ECEC systems to legitimise the claims made in the Maltese policies.

Table 1: Learning Dispositions (adapted from Ministry of Education, New Zealand, 1996:44)

- Knowledge, skills and attitudes can be seen as elements that combine to form a learning disposition – “habits of mind” or “patterns of learning”.
- Dispositions are important learning outcomes. They are encouraged rather than taught. When one encourages robust dispositions to reason, investigate and collaborate, children will be immersed in communities where people discuss rules, are fair, explore questions about how things work, and help each other. The children will see and participate in these activities. Teaching and guiding on the different stages of essay writing and the different tools, and understanding methods which could be adopted during each stage.
- An example of a ‘learning disposition’ is the disposition to be curious:
This may be characterised by:
 - Enjoying being curious - an inclination to enjoy puzzling over events;
 - Asking different questions - The skills to ask questions about them in different ways;
 - Asking at the right time - An understanding of when is the appropriate time to ask these questions.

(p.5)

Early childhood pedagogical practice embraces responsible curricular decision-making, teaching and learning through significant relationships (Australian Government Department of Education, Employment and Workplace, 2010).

(p.6)

Internationally, early years curricular frameworks and approaches, such as *Te Whāriki*, The Reggio Emilia Approach, *Aistear* and *Síolta* favour an emergent curriculum through interactive learning processes where investigations, discussions and active learning are at the core of pedagogy and where reflective practice is promoted.

(p.30)

Figure 3.2: Intertextuality between Australian and New Zealand texts and the LOF (DQSE, 2015)

In the introduction to this chapter, it was indicated that the Maltese documents do not refer to the English ECEC system directly. However, the influence of the English system can be noticed in the LOF (DQSE, 2015) when it cites OfSTED’s (2015), *School Inspection Handbook*: “Access to challenging and engaging teaching and learning experiences will ensure progress regardless of the children’s age and stage of development (Ofsted, 2015)” (p. 30). Thus, although there is no explicit connection between the Maltese policies and the English framework, this intertextuality reveals that the views of the authors may have still been guided by the English system.

3.3 On the Competency of the Child

The notion of the competent child denotes the perception of children who are actively engaged in their learning process (Ellegard, 2004). The focus of this section is on the interpretation that the policies give to the competency of the child since it determines the pedagogy embraced in the settings (Dahlberg et al., 1999). This analysis is significant because the perception of children determines the opportunities that children are given to apply their thinking skills.

Referring to England's EYFS (DfE, 2017), the framework never refers to the child as competent. It simply states that children can lead their own play (p. 9) but does not express the opinion that they can do so because they are able to. Instead, as argued by Wood (2019), it accentuates the role of the adult, as being the one who knows best for the children and whose concern should be that of getting children ready for formal education. According to Hyatt's (2013) tool, school readiness can be interpreted as the main driver of the policy. This accentuation can be found in five instances:

It promotes teaching and learning to ensure children's 'school readiness' and gives children the broad range of knowledge and skills that provide the right foundation for good future progress through school and life.
(p.5)

This section defines what providers⁵ must do, working in partnership with parents and/or carers, to promote the learning and development of all children in their care, and to ensure they are ready for school.
(p.7)

The three prime areas reflect the key skills and capacities all children need to develop and learn effectively, and become ready for school.
(p.9a)

As children grow older, and as their development allows, it is expected that the balance will gradually shift towards more activities led by adults, to help children prepare for more formal learning, ready for Year 1.

(p.9b)

Profile provides parents and carers, practitioners and teachers with a well- rounded picture of a child's knowledge, understanding and abilities, their progress against expected levels, and their readiness for Year 1.

(p.14)

Following Hyatt's frame (2013), these statements are examples of "accountability warrant" (p. 839) used by policymakers to claim the results that will be achieved with the implementation of the policy, and therefore justify their position. The verbs "ensure" (p. 5; p. 7) and "become" (p. 9a) are used purposefully and imply that if the policy is not followed, the children will not be given "the right foundation for good future progress through school and life" (p. 5), not "all children" (p. 7) will benefit, children will not "learn effectively" (p. 9a) and the children will not be well prepared (p. 9b). Thus, according to Hyatt's (2013) frame, it may be argued that the policymakers are also making use of "political warrant" (p. 839) as they are defending their claims in the name of children's interest. Therefore, accountability warrant and political warrant are used to justify the main driver of the policy, which is school readiness rather than children's competence.

In contrast, the EYLF (AGDoE, 2009) recognises the child as competent as from the outset. The only "readiness" (AGDoE, 2009, p. 30) it refers to is the one related to the metacognitive skill of persevering in the face of challenge. This is promising because the trust in the competency of the child ensures that the policy also encourages educators to challenge the children, and as a result, their thinking skills can be cultivated.

In the introduction, it specifies that its philosophy is in line with the rights bestowed to the child by the United Nations including the premise that children have the right to be active participants in issues that have an impact on their everyday lives (p. 5). Rather than being fixated on school readiness, the document recognises the children's sense of belonging, being and becoming in relation to learning (p. 7). The EYLF (AGDoE, 2009) gives significant importance to learning in early childhood since it recognises the children as active social actors:

Being recognises the significance of the here and now in children's lives. It is about the present and them knowing themselves, building and maintaining relationships with others, engaging with life's joys and complexities, and meeting challenges in everyday life. The early childhood years are not solely preparation for the future but also about the present.
(p. 7)

This stance is reflected all through the document as it accentuates that the children should be given ample opportunities to enjoy and learn during their 'being' state.

Looking through the lens of Hyatt's tool (2013), the authors of the EYLF (AGDoE, 2009) make use of intertextuality to justify its claims by referring to the UNCRC (United Nations, 1989) and the Melbourne Declaration on Education Goals for Young Australians (2008) (p.5). Moreover, it makes use of "evidentiary warrant" (Hyatt, 2013, p. 839) to emphasise that what is written in the policy should be trusted because it is based on international evidence and input from early years' scholars (p. 5).

In a similar way to the Australian framework, New Zealand's Te Whāriki (MoE, 2017) also makes use of intertextuality (Hyatt, 2013) by specifying that it follows the UNCRC (United Nations, 1989) (p.61). Thus, the children's interests are sought and addressed as early as possible and their culture, identity and language are acknowledged and respected by their educators. The children are considered as "competent and confident learners" (MoE, 2017, p.6) who can take an active role in their community, partake in the activities and have a say in

decisions about their curriculum and programme. The document goes a step further by asserting that it is the responsibility of educators to respect and support the children as well as to make the latter aware of their rights, abilities and potential. Thus, as for the EYLF (AGDoE, 2009), Te Whāriki (MoE, 2017) is underpinned by the epistemological stance that children are competent and thus, this ensures that the policy will emphasise that they will be considered as such.

Consequently, there is a sharp contrast between the way the Australian and New Zealand's ECE frameworks look at the competency of the child and how this is perceived by the English framework. This indicates that the first two curricula recognise the potential of the child while the English framework never makes such an assertion and is more concerned with predetermined, universal outcomes rather than competence.

Referring to the Maltese scenario, neither the NCF (MEDE, 2012) nor the LOF (DQSE, 2015) refer directly to the rights of the child (United Nations, 1989) as the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017). However, both documents assert that young children have an active role in their own learning process which needs to be ensured by providing apposite programmes (MEDE, 2012, p. 34; DQSE, 2015, p. 5). Thus, although there is no direct reference to the UNCRC (United Nations, 1989), it may transpire that the Maltese policies embrace the same philosophy as these two foreign documents. This may be another element that confirms the interactional connection that exists between these policies (Ball, 1993). However, given that there is no direct reference to the UNCRC (United Nations, 1989), it can also be argued that in some way, the Maltese documents may also resemble England's EYFS (DfE, 2017).

Thus, it may be deduced that with regards to the competence of the child, the Maltese documents are more in line with the position taken in the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) rather than in the EYFS (DfE, 2017).

3.4 On assessment in ECEC

In this section, I shall look at how these policy documents consider assessment in early years to elucidate whether thinking and thinking skills are high on their priority list.

The uniqueness of the child is identified as one of the overarching tenets of England's EYFS (DfE, 2017, p. 6). Moreover, it obliges practitioners to support and enable each child to develop this uniqueness. However, this principle does not seem to be reflected in its discourse because it constantly emphasises that the purpose of the early years' cycle is specifically the children's readiness for Year 1, as argued in the previous section. It assiduously repeats that by the end of the foundation stage all the children are expected to have achieved the abilities indicated in the EYFSP (STA, 2018). As asserted by Murray (2017b), this is indeed a "paradox" (p. 340) since educators have to enable the children to develop according to their individuality and at the same time reach all the standardised expected criteria that are required in order to be ready for formal education.

Both the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) take a different approach to assessment than England's EYFS (DfE, 2017). Assessment in early years is formative and focuses on enabling the children to develop a strong personality, to be part of and contribute to their social setting, to be aware of their wellbeing, to be assertive and active learners and to communicate effectively (AGDoE, 2009, p. 17-18; MoE, 2017, p. 63-65). Thus, they focus on the development of learning dispositions that will pave the way for the acquisition of other skills later on rather than on school readiness, as in the case of the EYFS (DfE, 2017).

Moreover, the fact that the EYFS (DfE, 2017) emphasises that all children have to be assessed against the same standardised criteria, may indicate that it may not fully acknowledge that children derive from different contexts and culture (p. 14-15). Indeed, it expects all children, irrespective of their background to achieved the predetermined set of criteria by the end of the foundation stage as if cultural and contextual differences are minimal or non-existent (Vygotsky, 1978).

The Australian framework and the New Zealand curriculum, instead, celebrate and respect these differences. The EYLF (AGDoE, 2009) explains that culture and context form an integral part of “Being” (p. 7). Reference to culture occurs seventeen times throughout EYLF (AGDoE, 2009), mostly in relation to the ways in which educators can respect the diverse cultures of the children. The following three quotations are some examples:

Educators honour the histories, cultures, languages, traditions, child rearing practices and lifestyle choices of families.
(p. 13)

Educators view culture and the context of family as central to children’s sense of being and belonging, and to success in lifelong learning.
(p. 16)

[Educators] show respect for diversity, acknowledging the varying approaches of children, families, communities and cultures.
(p. 23)

The use of the words such as “honour” (p. 13), “success” (p. 16), “central” (p. 16) and “respect” (p. 23) implies that the authors are legitimising their claims by linking them to morality.

Therefore, they are using “moral evaluation” (Hyatt, 2013, p. 840) as mode of legitimisation.

Referring to Te Whāriki (MoE, 2017), the curriculum adds that one of its main purposes is to strengthen the culture and the identity of the children. This principle is not only reiterated throughout the document but is also reflected in its discourse, title and cultural terminology such

as “kaiako” (p. 23) used throughout the document. The use of moral evaluation (Hyatt, 2013) can also be observed in Te Whāriki (MoE, 2017) in excerpts such as:

Children learn and develop best when their culture, knowledge and community are affirmed and when the people in their lives help them to make connections across settings.
(p. 20)

Children are more likely to feel at home if they regularly see their own culture, language and world views valued in the ECE setting.
(p. 31)

The phrases “learn and develop best” (p. 20) and “more likely to feel at home” (p. 31) demonstrate that moral evaluation is also used in this document to legitimise the claims made by the authors.

In addition, both the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) emphasise that learning can only be meaningful if it occurs in context. The documents encourage educators to make use of their expertise to ascertain that their activities are always adapted according to the context, location and time in which they take place.

As articulated in the introduction to this chapter, the way a document argues about assessment indicates what its authors consider to be important. In this case, it is quite clear that the British system is more concerned with “schoolification” (Ring & O’Sullivan, 2018, p. 402) rather than with the acquisition of learning dispositions as in the case of the Australian and New Zealand systems. In the literature review, it was argued that learning dispositions are an integral part of metacognitive skills and that these facilitate the acquisition of thinking skills associated with all the other categories, which are information processing, problem-solving, creative thinking and critical thinking. Therefore, it can be deduced that the Australian and New Zealand ECEC systems may give more importance to the cultivation of thinking than the British system.

With regards to Malta, in the NCF (MEDE, 2012), formative assessment is proposed for KG-aged children, with the purpose being of enabling each child to reach the outcomes identified for this cycle:

Whilst children will not be formally assessed in the Early Years Cycle their development and progress will be recorded and reported to parents at least twice a year. Formative assessment is advocated for this Cycle as it is highly appropriate to capture children's individual progress and development. The learning programmes developed for this Cycle are to lead to the learning outcomes of this Cycle. It further reaffirms the purposes and aims for the Early Years.

(p. xv)

Using Hyatt's (2013) analytical tool, it can be deduced that the views of the authors are "inscribed" (p. 841) within the terms "advocated" (p. xv) and "highly appropriate" (p. xv).

The view in favour of formative assessment is confirmed and emphasised in the LOF (DQSE, 2015), which suggests multiple ways of formative assessment procedures including anecdotal records, learning diaries, portfolios, multimedia evidence, projects, artwork and samples of children's work. The document dedicates four pages to assessment, two focusing on strategies for zero- to three-year-olds (p. 26-27) and another two for three- to seven-year-olds (p. 32-33). This link between the texts indicates "policy-trajectory" (Hyatt, 2013, p. 838) since the NCF (MEDE, 2012) was subsequently reconceptualised in the LOF (DQSE, 2015).

Even though both Maltese documents consider and present a kindergarten curriculum grounded on the cultivation of learning dispositions, in reality, in the Maltese context, as argued in the Literature Review, these two years are still considered by most parents as a preparatory period for formal schooling (Sollars, 2018). Moreover, the pressure to focus more on pre-literacy and pre-numeracy skills in the Kindergarten years is still prevalent in actual practice (Sollars, 2018). This may lessen the importance given by the educators to the fostering of learning dispositions and may create an inconsistency between what is expected in policies and

what happens in everyday practice. Thus, as regards assessment, there seems to be an interactional connection between the Maltese documents and the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) but then actual practice may reflect more similarity with England's EFYS (DfE, 2017).

3.5 On young children's thinking potential

The English EYFS (DfE, 2017) framework states that in their planning and practice, practitioners have to show three qualities of "effective teaching and learning" (p. 10). Figure 3.3 demonstrates a "lexico-grammatical" (Hyatt, 2013, p. 842) analysis to identify the thinking skills that are present in these three characteristics. (Colour coding indicates the category of thinking skills to which the words are referring).

- **playing and exploring** - children **investigate** and **experience things**, and **'have a go'**
 - **active learning** - children **concentrate** and **keep on trying** if they encounter difficulties, and **enjoy achievements**
 - **creating and thinking critically** - children have and **develop their own ideas**, **make links between ideas**, and **develop strategies for doing things**
- Key: **problem-solving** **metacognition** **creative thinking** **critical thinking**

Figure 3.3: Thinking skills identified in EYFS (DfE, 2017, p. 10)

The lexico-grammatical analysis shows that for the authors of EYFS (DfE, 2017) thinking skills are closely related to what it portrays as effective teaching and learning. It also expects that these skills should be integrated throughout the activities that are organised in the settings. This is positive since it agrees with the arguments found in the literature, for instance in Hedges and Cooper (2018). However, when these assertions are analysed in relation to the main policy driver (Hyatt, 2013), which in this policy is school readiness, there seems to be a contradiction. It is ironic to expect practitioners to organise activities that can foster all these

thinking skills and simultaneously address all the different needs of the children so that they can all perform well on the standard assessment of the early learning goals at the end of the EYFS (DfE, 2017). My analysis reinforces the argument in Wood and Hedges (2016) in favour of working theories as a curricular approach since they would provide a balanced curriculum between the control demanded in the EYFS (DFE, 2017) and the cultivation of thinking skills as promoted in Te Whāriki (MoE, 2017).

The importance of the cultivation of thinking runs throughout the EYLF (AGDoE, 2009), strictly associating it to the fourth assessment outcome: “Children are confident and involved learners” (p. 34). A lexical evaluation (Hyatt, 2013) of this title indicates that the words “confident” and “involved” are inscribed with the authors’ thoughts about the competency of the child, debated in the first section of this chapter. This outcome is broken down into four objectives (AGDoE, 2009, p. 34). Figure 3.4 shows the “lexico-grammatical” analysis (Hyatt, 2013, p. 842) of the thinking skills mentioned in these objectives. (Colour coding indicates the category of thinking skills to which the words are referring).

- Children develop dispositions for learning such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination and reflexivity
- Children develop a range of skills and processes such as problem solving, enquiry, experimentation, hypothesising, researching and investigating
- Children transfer and adapt what they have learned from one context to another
- Children resource their own learning through connecting with people, place, technologies and natural and processed materials

Key: problem-solving metacognition creative thinking critical thinking

Figure 3.4: Thinking skills identified in EYLF (AGDoE, 2009, p. 34)

A comparison between the two analyses indicates a considerable resemblance between the thinking skills mentioned in the two documents. However, the EYLF (AGDoE, 2009) moves

a step further than the EYFS (DfE, 2017). The EYLF (AGDoE, 2009) includes the last outcome, “Children resource their own learning through connecting with people, place, technologies and natural and processed materials” (p. 34) and the skill of “cooperation” (p. 34) to highlight its premise that thinking and learning result as part of a social and contextual process. Such words indicate that the policy is driven by goals based on sociocultural principles debated in the Literature Review.

In Te Whāriki (MoE, 2017), thinking is perceived as an integral part of the whole learning process. It states that learning across the whole curriculum requires educators to “prioritise the development of children’s learning dispositions and working theories” (p. 23). The learning dispositions that the children are expected to foster throughout their early years mostly consist of skills related to thinking. This can be observed in Figure 3.5, which is a “lexico-grammatical” analysis (Hyatt, 2013, p. 842) of the learning dispositions mentioned in Te Whāriki (MoE, 2017, p.23). (Colour coding indicates the category of thinking skills to which the words are referring).

... **courage** and **curiosity** (taking an interest), trust and playfulness (being involved), **perseverance** (persisting with difficulty, challenge and uncertainty), **confidence** (expressing a point of view or feeling) and responsibility (taking responsibility). Other learning dispositions include reciprocity, **creativity**, **imagination** and **resilience**.

Key: **problem-solving** **metacognition** **creative thinking**

Figure 3.5: Lexico-grammatical analysis of the learning dispositions mentioned in Te Whāriki (MoE, 2017, p. 23)

To sum up, the three policy documents mention various thinking skills associated with KG-aged children. In the Australian and the New Zealand documents, they are intended to enable children to pursue their working theories and to foster in children cognitive tools that they would need to deal with their challenges. Thus, thinking skills occupy a high position on their agenda as they are considered as tools which the children, who are competent actors in their own

learning process, use to solve their immediate inquiries. In contrast, the impression that is gathered from the English document is that given the strong emphasis that is laid on the readiness for formal education, the thinking skills that are expected to be cultivated are to serve for this purpose. It follows that here the agenda is totally different from that which underlies the other two documents.

As regards the Maltese documents, a thorough look at the NCF (MEDE, 2012) and the LoF (DQSE, 2015) reveals that thinking and its associated skills are considered as having a key role in education provision and learning. This reflects itself in various sections throughout the documents, both in those sections that discuss common themes for all the three education cycles as well as in the others that focus specifically on the Early Years Cycle, as will be discussed in the remaining parts of this section. A lexico-grammatical analysis approach (Hyatt, 2013) will again be used in order to clarify my arguments.

Referring to the general themes, thinking is discussed in relation to curriculum design. The NCF (MEDE, 2012) encourages all educators across all cycles to ensure that every learning programme they design includes both knowledge and skills and suggests that this could be attained by having:

- Content and mastery which involves having students **explore** and **understand** the whole breadth of ideas in a particular content area.
- **Higher order thinking** which involves **analysis**, **synthesis** and **evaluation** of content and concepts in some **depth**, and **applying them in different ways and in different contexts**.
- Use of overarching concepts and themes to **examine curriculum content** through **different lenses**, for example change, systems, power, patterns and/or cause and effect.

(p. 40)

The highlighted words demonstrate the emphasis that the document lays on thinking. As it can be deduced, there is an emphasis on having students engaging in problem-solving and critical thinking.

The acquisition of thinking skills with regards to all the educational cycles is also debated in relation to effective learning, which is another theme that is affirmed as an area that affects the three cycles of education. Among the seven conditions that the NCF (MEDE, 2012) specifies have to be present to ensure successful learning, there is problem-solving and the skill to transfer and apply knowledge to handle different situations (p. 40).

In the remaining part of this section, I shall focus on the thinking skills in relation to the early years only. Colour coding is again used to indicate the category of thinking skills to which the words are referring.

As argued earlier, the LOF (DQSE, 2015) reflects the trajectory of the NCF (MEDE, 2012) since it continues to elaborate on the learning outcomes originally identified in the framework. In fact, in its opening sentence, the LOF (DQSE, 2015) reaffirms that the five learning outcomes of the NCF (MEDE, 2012) “must be the overall guide for educator’s pedagogy” (p. 5). This shows that the role of this document is that of being a policy lever (Hyatt, 2013) for the NCF (MEDE, 2012). Thus, given the trajectorial link (Hyatt, 2013) between the two documents, I shall quote the text in the LOF (DQSE, 2015) for the lexicogrammatical analysis. I refer to Level 3 learning outcomes as these are identified as the ones to be reached by the end of the kindergarten years (p. 14 -15).

In examining the five outcomes identified for the early years in the NCF (MEDE, 2012), thinking appears in connection with the first, the second and the fifth. The first outcome focuses on enabling the children to develop a strong sense of identity (NCF, 2012, p. 21). The LOF

(DQSE, 2015, p. 11) specifies that this can occur when the children persist when they are faced with challenges and when they imagine possible solutions to solve a problem.

Learning Outcome: 1) Children who develop a strong sense of identity

Related Achievements: Children who become responsible and resilient in the face of challenges

1 I explore different solutions when faced with a problem.

2 I persevere in the face of challenges.

Key: metacognition creative thinking

Figure 3.6: Lexico-grammatical analysis of Learning Outcome 1 in LOF (DQSE, 2015, p. 11)

The first achievement is related to creative thinking and the second one to metacognition.

The second outcome of the NCF (MEDE, 2012) states that children have to be supported to develop a positive self-perception which in turn, leads them to become active and take risks (p. 21). The LOF (DQSE, 2015, p. 11-12) mentions various related achievements to this outcome, amongst which, the ability to be creative when faced with new challenges and the spontaneous initiative to face new problems independently.

Learning Outcome: 2) Children who have a positive self-image**Related Achievements: Children who believe in themselves fully aware of their potential and capabilities**

1 I interpret my ideas creatively e.g. through art, music, movement, play, etc.

2 I approach new situations positively and with confidence.

3 I explore the world around me using a range of strategies.

4 I use multiple tools to solve challenging situations.

Related Achievements: Children who gain confidence in themselves and their achievements

1 I understand that I can learn from my mistakes.

2 I am prepared to try things out.

Related Achievements: Children who develop positive attitudes which enable them to take the initiative and become risk-takers

1 I am confident taking the lead in activities.

2 I am clear about my preferred activities and am able to make my own choices.

3 I try to solve problems I encounter myself before asking for support.

4 I exercise self-help skills independently.

Key: metacognition creative thinking

Figure 3.7: Lexico-grammatical analysis of Learning Outcome 2 in LOF (DQSE, 2015, p. 11-12)

As for the first outcome, the skills mentioned in the second outcome are both related to creative thinking and metacognition.

The fifth outcome focuses solely on thinking and specifies that the fostering of thinking leads to the cultivation of learning dispositions. This is reflected in its broad aim, which reads “Children who nurture positive attitudes towards learning and become engaged and confident learners” (NCF, 2012, p. 23).

Learning Outcome: 5) Children who nurture positive attitudes towards learning and become engaged and confident learners

Related Achievements: Children who develop a range of cognitive skills to include labelling/identifying, recognition, sorting, hypothesising, predicting, comparing, sequencing and grouping

1 I can identify, sort, group, sequence, classify and organize objects in play activities.

2 I can predict, think logically, make assumptions, hypothesise, ask questions and reply to open-ended questions.

3 I can make connections between experiences, concepts and processes.

Related Achievements: Children who develop positive dispositions to include enthusiasm and motivation, curiosity, questioning, concentration, perseverance, imagination, ability to accept alternative suggestions/criticism

1 I show a positive disposition towards learning, am curious and enthusiastic in my learning.

2 I use play to investigate, imagine and explore ideas.

3 I persist in the face of challenge.

4 I can follow and extend my interest with enthusiasm and concentration.

5 I am motivated to pursue my interests and seek answers to my questions.

6 I take risks and learn from mistakes and failure.

Related Achievements: Children who broaden knowledge and reinforce their understanding through availability of and access to various sources of information

1 I can broaden my knowledge through enquiry and discovery and develop working theories about the world around me.

2 I can manipulate resources to investigate, take apart, assemble, invent and construct.

3 I can respond creatively to a variety of stimuli.

4 I can demonstrate interest in the larger world beyond my immediate environment.

5 I can express and communicate ideas, thoughts and feelings through the expressive arts (music, drama, movement and art & design)

Key: problem-solving metacognition creative thinking critical thinking information processing

Figure 3.8: Lexico-grammatical analysis of Learning outcome 5 in LOF (DQSE, 2015, p. 14-15)

As can be deduced, several thinking skills related to the five categories of thinking skills discussed in the Literature Review are mentioned here. As argued above, thinking is mentioned throughout both Maltese documents and this illustrates that it is given its due importance in policies. The question remains on whether this is happening in actual practice due to our cultural context that tends to associate the kindergarten years with the acquisition of pre-literacy and pre numeracy skills (MEDE, 2013b; Sollars, 2018).

Moreover, in this section, there is the direct reference in the LOF (DQSE, 2015) to “working theories” (p. 15). This continues to show the stance of the authors in favour of the pedagogy promoted in Te Whāriki (MoE, 2017).

An additional significant observation is that the NCF (MEDE, 2012, p. 23) mentions the use of technology as one of the related achievements of Outcome 5. When the authors of the LOF (DQSE, 2015), elaborated these outcomes over the four levels of attainment for the early years (Level 1, Level 2 and level 3 are for Childcare, KG1 and KG2; Level 4 for Years 1 and 2) they associated the use of technology with Level 4, thus with older children. However, as shown in the literature, KG-aged children can already learn the skills of retrieving information and reflecting on what they find (Hedges & Cooper, 2018).

Furthermore, this analysis also sheds light on the way these policy documents look at children’s development in ECEC. The structure and composition of the EYFS (DfE, 2017, p. 11-12) framework suggest that it prefers to dissect knowledge and skills into separate areas and competences. It does not clarify enough that these have to be integrated to enable the child to develop holistically. By contrast, both the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) adopt a thoroughly different approach since they advocate in favour of holistic approaches to

learning and teaching which acknowledge the affinity between “mind, body and spirit” (AGDoE, 2009, p. 14; MoE, 2017, p. 5).

Unlike the EYFS (DfE, 2017) framework, the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) affirm that the early years’ programme has to imitate life and therefore, guide children to learn and develop holistically. For this reason, both documents encourage educators to ascertain that children develop in all dimensions and that activities are based on an interdisciplinary approach that can take place for instance, through project-based work (Refer to EYLF (AGDoE, 2009, p. 15) and Te Whāriki (MoE, 2017, p.15) as two examples).

A common theme across both Maltese documents is holistic development. Both the NCF (MEDE, 2012, p.40) and the LOF (DQSE, 2015, p. 5) highlight that ECEC should enable children to develop across the physical, psychological, emotional, social and moral domains simultaneously. On the same lines of the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017), project-based work is encouraged in the Maltese documents:

Multiple perspectives can be investigated through projects, topics and themes which respond to children’s curiosity and need to find out the what, why and how things work. (NCF, 2012, p. 47)

Project work may be individual or collaborative, depending on the nature of the project, intentions of the educator, or interests of the children. (LoF, 2015, p. 36)

To sum up, the Maltese documents are more in line with the ideas of the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) regarding young children’s thinking potential than with the EYFS (DfE, 2017). Having analysed the texts on the messages that they convey in relation to thinking in early years, I now delve into more detail as I analyse them again in relation to the concepts that I identified in the Literature Review as being crucial for thinking in KG-aged

children. Lexico-grammatical analysis is the approach that is used to deconstruct the text in the policies in order to capture the underlying meanings (Hyatt, 2013).

3.6 On the Constructs of the Conceptual Framework

3.6.1 Relational pedagogy.

The EYFS (DfE, 2017) uses the lexical term “relationships” (p. 5, p. 11, p. 16) to refer to the interpersonal connections between the practitioners and parents or guardians, among the children and between the children and their practitioners respectively. It does not associate relationships with pedagogy itself. As argued earlier, it is more interested in individual performance rather than in the learning that can be achieved in collaboration with others. This is reflected in its overarching tenets (DfE, 2017, p. 6). Thus, it can be argued that if the practitioners had to strictly adhere to the policy, their children may not be given the opportunity to cultivate their thinking skills as much as others whose practitioners embrace sociocultural principles.

Analogously, the EYLF (AGDoE, 2009) also discusses the importance of having a respectful relationship and partnership between the educators, children and their parents (p. 11). However, it also recognises the importance of relational pedagogy, which it identifies as “responsive learning relationships” (p.17). As opposed to the EYFS (DfE, 2017), the EYLF (AGDoE, 2009) states that pedagogy has to be based on the reciprocal relationship that allows them to co-construct relevant learning: “When educators establish respectful and caring relationships with children and families, they are able to work together to construct curriculum and learning experiences relevant to children in their local context” (p. 11). The use of the words “respectful” and “caring” indicate the value that the authors of this policy give to the relationships between the educators, the children and their families.

Similar to the EYFS (DfE, 2017) and the EYLF (AGDoE, 2009), Te Whāriki (MoE, 2017) promotes interactions among all stakeholders for the benefit of the children: “It is important that kaiako develop meaningful relationships with whānau and that they respect their aspirations for their children, along with those of hapū, iwi and the wider community” (p. 20). Here, the word “meaningful” is value-laden as in the case of “respectful” and “caring” in the EYLF (AGDoE, 2009, p. 11). As the EYLF (AGDoE, 2009), the New Zealand curriculum considers the importance of relationships in learning. Indeed, it goes beyond the EYLF (AGDoE, 2009) as it declares that such relationships are esteemed: “It is through responsive and reciprocal relationships with people, places and things that children have opportunities to try out their ideas and refine their working theories. For this reason, collaborative aspirations, ventures and achievements are valued” (p. 21). Te Whāriki (MoE, 2017) affirms that these partnerships have to contribute towards the children’s unfolding working theories. Learning through meaningful interactions is one of the underpinning drivers (Hyatt, 2013) of this policy and this is explicitly asserted again in its discussion about the theories that undergird the document (MoE, 2017, p. 61).

Given the above, the criterion of relational pedagogy is strongly featured in the EYLF (AGDoE, 2009) and New Zealand’s Te Whāriki (MoE, 2017) documents while England’s EYFS (DfE, 2017) seems to ignore the aspect of relationships in relation to pedagogy itself. This comes as no surprise since the Australian and New Zealand ECEC systems promote learning as a fundamental part of a social process while the English system is more traditional and considers only the educator-parent rapport aspect of relationships.

The same principles adopted in the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) are present in the Maltese NCF (MEDE, 2012) and the LOF (DQSE, 2015). The NCF (MEDE, 2012) recognises the benefits of sociocultural approaches between the children and their

educators as the first hallmark of effective ECE pedagogy (p. 33). This is further reinforced in the LOF (DQSE, 2015) that highlights the role of the educator in providing the appropriate and well-timed intervention to support the children to achieve more than if they were left to discover new understandings on their own (p. 29).

3.6.2 Meaningful and intentional dialogues.

The EYFS (DfE, 2017) associates communication to the development of language and literacy skills. It states: “Understanding: children follow instructions involving several ideas or actions. They answer ‘how’ and ‘why’ questions about their experiences and in response to stories or events” (p. 10). This statement implies that for this policy, the objective of communication is to check understanding. The words “answer” and “in response” indicate that children are responding to another person who is there to check their understanding. Thus, the deconstruction of this sentence (Hyatt, 2013) implies that the authors of this policy do not look at children as being on the same level as their educators. The policy may be perpetuating the traditional view of the children as being submissive to their educators (Freire, 1970). In fact, there is no reference to communication as a means to produce intersubjectivity between working partners (Leseman, Rollenberg & Rispen, 2001; Rogoff, 1990) or to co-construction of new meaning in collaborative endeavours (Green & Gredler, 2002).

As discussed in the previous section, the EYLF (AGDoE, 2009) connects meaningful dialogues to the co-construction of learning. Moreover, it specifies the link between thoughtful dialogues and thinking and the role of the educator in enabling the children to add to their previously acquired thinking: “They engage in sustained shared conversations with children to extend their thinking⁵” (p. 15). In contrast with England’s EYFS (DfE, 2017), the EYLF (AGDoE, 2009) emphasises that: “Educators who engage in intentional teaching recognise that

learning occurs in social contexts and that interactions and conversations are vitally important for learning” (p. 15). The utilisation of the lexical term “vitally” is inscribed with meaning as it indicates the authors’ standpoint in favour of the use of dialogues to extend learning and thinking. The sentence once again emphasizes what the role of the educators should be; that of engaging with their learners and recognising the importance of context and interactions in learning. Thus, in contrast with the role of the educator in England’s EYFS (DfE, 2017), here the educator is considered to be on the same level of the child; as an adult who is there to enable the child to move towards further learning rather than to evaluate his understanding from a higher position. The document emphasises again the importance of social interactions in learning and states that collaborative learning should be integrated into all learning activities and used to encourage communication between all stakeholders.

The same logic of EYLF (AGDoE, 2009) underlies Te Whāriki (MoE, 2017). The latter also makes a direct link between the use of language and thinking, at various points, for instance:

Use of language to express feelings and attitudes, negotiate, create and retell stories, communicate information and solve problems.
(p. 42)

Kaiako encourage sustained shared thinking by responding to children’s questions and by assisting them to articulate and extend ideas.
(p. 50)

The above statements also indicate that for the authors of Te Whāriki (MoE, 2017), the educator has the responsibility of enabling the children to cultivate their thinking through dialogues. This is the same perception of the educator found in the EYLF (AGDoE, 2009).

The above observations denote that the Australian and New Zealand systems recognise that dialogues in ECEC do not only serve to check understanding in children as it seems to be

imparted in the English EYFS document (DfE, 2017). They acknowledge and promote dialogue as a means of “interthinking” (Littleton & Mercer, 2013, p.1) in order to produce new meaning.

Meaningful interactions are also valued and encouraged in ECEC programmes by the NCF (MEDE, 2012). As in the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017), the document connects language with thinking and specifies, in a similar way to the other two, that the educator has to ascertain that communication leads to stimulate thinking: “They must be skilled in supporting and extending children’s communication skills and creative in designing an appealing environment which will arouse and stimulate children’s thinking and interactions” (p. 46).

The LOF (DQSE, 2015) does not make any direct reference to the link between thinking and language, although it encourages teaching and learning through sociocultural approaches (p. 29).

Thus, regarding meaningful and intentional dialogues, the Maltese documents are more similar to the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017). However, they do not stress the link between language and thinking as much as the Australian and New Zealand documents.

3.6.3 The co-construction of new meaning

The EYFS (DfE, 2017) states that activities are either child-led or directed by their practitioners (p. 9). It adds that towards the end of the early years cycle, activities become more adult-led than before since the children have to be suitably prepared for Year 1:

Each area of learning and development must be implemented through planned, purposeful play and through a mix of adult-led and child-initiated activity. ... As children grow older, and as their development allows, it is expected that the balance will gradually shift towards more activities led by adults, to help children prepare for more formal learning, ready for Year 1.
(DfE, 2017, p. 9)

In no instance does the framework recognise that new thinking and meaning can be co-constructed between the educator and the learners. The only partnership that EYFS (DfE, 2017) mentions is the one between the practitioners and parents or carers (p. 5). It is either “adult-led” or “child-initiated”. The use of the phrases “it is expected” and “to help children prepare” show the use of accountability warrant (Hyatt, 2013) and rationalisation (Fairclough, 2003) being used by the authors to justify their view. There is the implication that if the activities do not become more adult-led, the children will not be well prepared for Year 1.

The deconstruction (Hyatt, 2013) of the second sentence quoted above shows the underlying messages that the terms used may be intended to evoke in educators. Their hidden objective may be that of propagating the view that formal education is more important than the foundation stage since they argue that as formal education approaches, the activities should be more adult-led. Moreover, this may imply that in the eyes of the authors, child-initiated activities do not offer solid grounds for future learning as much as those which are adult-led. Therefore, adult-led activities are being valued more than child-led activities. Another intention may be that of reinforcing the status of the educator as being more powerful than that of the child.

On co-construction, the EYLF (AGDoE, 2009) asserts that “... learning is co-constructed through interactions between the educator and each child” (p. 17). It explains “co-construct” as “learning [that] takes place as children interact with educators and other children as they work together in partnership” (p. 45). These excerpts indicate the connection that the Australian policy makes between co-construction, interactions and relations and their influence on learning. In addition, the policy stresses that during co-construction, educators “make use of spontaneous ‘teachable moments’ to scaffold children’s learning” (AGDoE, p. 15).

Te Whāriki (MoE, 2017) claims: “Kaiako ... assist them to take advantage of opportunities for exploration, problem-solving, remembering, predicting and making comparisons and to be enthusiastic about finding answers together” (p. 50). The phrase “finding answers together” (MoE, 2017, 50) suggests that educators and their children work as a group to co-construct new meaning, thus there is collaboration and meaningful interaction. Moreover, the policy affirms that knowledge is “social, cultural and material” (MoE, 2017, p. 22). Thus, in order to construct new knowledge, the children have to interact and collaborate with others. Such assertions continue to portray the underlying sociocultural principles of this document. It reveals the authors’ conviction in the importance of social interaction in learning and of human, material and symbolic mediation through which learning takes place (Kozulin, 2003; Vygotsky, 1978).

In view of what has been discussed regarding relational pedagogy, meaningful dialogues and co-construction of new meaning, it is evident that these three criteria complement each other. Having an environment in which the children feel confident to learn with others encourages purposeful interactions which result in new meaning being created by the joint effort of all participants. The EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) mention the three of them whereas the EYFS (DfE, 2017) takes a more traditional stance to learning and teaching in ECEC and seems to ignore the salient benefits of embracing these three criteria.

In the Maltese NCF (MEDE, 2012), the co-construction of new meaning constitutes another hallmark of an effective ECEC programme since this would “allow child-initiated activities acknowledging that learning in the early years is a process of co-construction and collaboration” (p. 33). When the LoF (DQSE, 2015) discusses assessment, it states that learning has to be viewed as “...co-constructed in interactions with people, places and things...” (p. 26). These excerpts indicate that these Maltese policies recognise that thinking and learning emerge

from co-construction and collaboration, which implies interaction between the participants. Thus, as in the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017), the three criteria are mentioned in this Maltese document and are considered to be significant and interdependent for new thinking to emerge.

3.6.4 Curriculum.

In the literature review, I argued that a curriculum that favours thinking in KG-aged children has to be emergent and inquiry-based. Consequently, in this section, the policies are analysed first for what they impart on the concept of the emergent curriculum and secondly, on what they claim with regards to IBL.

3.6.4.1 The emergent curriculum.

The EYFS (DfE, 2017) specifies that educators “must respond to each child’s emerging needs and interests” (p. 9). With such a statement, it may be expected that the statutory document would encourage an emergent curriculum, because, as argued by Rosales (2015), it is the approach that would enable educators to actually address the interests of the children. However, this is not the case, as it seems to be more fixated with assessment, as argued in Section 3.4. In addition, it may also be anticipated that the document would encourage free play for the children to express their inquiries. This is not the case either, as it is very restrictive with regards to play. It is important to notice how the EYFS (DfE, 2017) mentions “playing” (p. 10) as one of the effective characteristics of teaching and learning but then, does not seem to consider play as the approach through which children can be prepared for Year 1: “As children grow older, and as their development allows, it is expected that the balance will gradually shift towards more activities led by adults, to help children prepare for more formal learning, ready for Year 1” (p. 9). As can be observed, the document ceases to refer to play once it starts to discuss school readiness.

The EYLF (AGDoE, 2009) does not mention the term ‘emergent curriculum’ but states that “learning environments are welcoming spaces when they reflect and enrich the lives and identities of children and families participating in the setting and respond to their interests and needs” (p. 15). As can be perceived, this statutory document also uses the term “respond” as the EYFS (DfE, 2017, p. 9). However, it can be argued that in this case, in contrast with the EYFS (DfE, 2017), the Australian policy does promote the use of an emergent curriculum because it aims at addressing children’s interests to enhance their holistic development rather than school readiness.

By the same token, Te Whāriki (MoE, 2017) does not make a direct reference to the emergent curriculum. Nevertheless, it specifies that all activities have to enable young children to refine their “working theories” (MoE, 2017, p. 23). This infers that the curriculum has to be emergent since it has to be in response to the working theories of the children.

As can be gathered, there is a difference between how the EYFS (DfE, 2017) and the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) perceive the curriculum. For the EYFS (DfE, 2017), the curriculum is the starting point. It resembles a standard roadmap which everyone has to follow in order to meet the outcomes as explained in the RBA (STA, 2019). Here the children and their educators have to abide by what is prescribed in the curriculum. Instead, the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) depart from the interests of the children and consider the curriculum as a response to those interests. Thus, the knowledge content that the EYFS (DfE, 2017) seems to be so much anxious about, is also integrated into the curriculum as proposed by the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) because the children need to acquire it in order to further their working theories. This makes a huge difference for the children. With the EYFS (DfE, 2017), the children do not perceive the relevance of their learning content, while for those who follow the EYLF (AGDoE, 2009) and

Te Whāriki (MoE, 2017), content is purposeful because they need it to proceed and meaningful because it suits their own interests.

As regards the Maltese situation, the NCF (MEDE, 2012) advocates in favour of using cross-curricular themes that provide opportunities for the children to form a solid foundation of lifelong learning skills (p.48). The LOF (DQSE, 2015), given that it is the latest document and is based on more recent literature, mentions the emergent curriculum:

Internationally, early years curricular frameworks and approaches, such as *Te Whāriki*, The Reggio Emilia Approach, *Aistear* and *Siolta* favour an emergent curriculum through interactive learning processes where investigations, discussions and active learning are at the core of pedagogy and where reflective practice is promoted.
(p.30)

As can be deduced, the LOF (MEDE, 2015) does not explicitly say that the “emergent curriculum” is the approach which should be followed. However, it links the approach with curricular frameworks and approaches (“*Te Whāriki*”, “The Reggio Emilia Approach”, “*Aistear*”, “*Siolta*”) as well as terminology (“interactive learning processes”, “investigations”, “discussions”, “active learning”, “reflective practice”) associated with best practice in ECEC in our culture, which local early years educators are familiar with. Thus, in this case, the authors use “evidentiary warrant” (Hyatt, 2013, p. 839) to justify and encourage the implementation of the emergent curriculum.

3.6.4.2 The inquiry-based curriculum.

The EYFS (DfE, 2017) does not refer directly to IBL but identifies exploration (p.10) as one of the effective characteristics of learning and teaching. As already argued, the openings that the policy offers to the children to explore is debatable given the several goals that they need to reach in each specific area, as indicated on the EYFSP (STA, 2018). The use of the word “enquiry” in the EYFSP (STA, 2018, p. 56) is used to provide guidelines for the educators when

they are assessing and commenting on the performance of their learners while they are filling their reports and has nothing to do with pedagogy.

The Australian curriculum (AGDoE, 2009), in contrast, combines IBL to its fourth outcome that aims to enable children to become “confident and involved learners” (p. 34 -35). The suggestions that it provides to educators on how to fulfil this outcome shows the close correlation that it makes between IBL activities and thinking, as can be observed in the following quotation:

- provide opportunities for children to revisit their ideas and extend their thinking
 - model inquiry processes, including wonder, curiosity and imagination, try new ideas and take on challenges
 - reflect with children on what and how they have learned
- (p. 34)

The phrases “revisit their ideas”, “extend their thinking”, “try new ideas and take on challenges” and the words “wonder”, “curiosity”, “imagination” and “reflect” demonstrate the link that the policy makes between IBL and thinking. The Australian curriculum also highlights the importance of having an enabling environment, which whether inside or outside has to allow for exploration, problem-solving, creativity and construction (p. 15-16).

Even though in Te Whāriki (MoE, 2017), there is no direct use of the terminology ‘inquiry-based learning’, it is clear that its principles form an integral part of the ideologies on which this document was written. By choosing the support of children’s working theories as one of its main outcomes, it expresses its predisposition in favour of providing children with stimulating activities through which they can broaden their interests. Exploration is remarkably valued in Te Whāriki (MoE, 2017) to the extent that it is chosen as its fifth strand through which children can develop their potential (p. 25). Educators are encouraged to base play activities on exploration because it unlocks thinking potential:

Children learn through play: by doing, asking questions, interacting with others, devising theories about how things work and then trying them out and by making purposeful use of resources. As they engage in exploration, they begin to develop attitudes and expectations that will continue to influence their learning throughout life.

(p. 46)

Te Whāriki (MoE, 2017) infers that through exploration, the children develop useful life skills for they become “critical thinkers” (p.46) and “problem solvers” (p.46). It allows children to “pursue an interest” (p. 47), make “sense of their worlds by generating and refining working theories” (p. 47), “cope with uncertainty” (p. 47) and “take risks” (p. 47). The policy argues that together with communication and representation, exploration enables the children to discern the validity and relevance of literacy and numeracy and other content knowledge since they encounter instances when they need these competencies to further their working theories:

Their developing literacy and mathematical abilities embrace new purposes, such as reasoning, verbal exploration, puzzling and finding out about the physical and social world.

(MoE, 2017, p. 15)

IBL is debated and promoted in both Maltese documents. The NCF (MEDE, 2012) starts the section on implementation by stipulating that:

The NCF constitutes a major change undertaking. The NCF implementation will not only demand pedagogical reform as traditional ways of teaching will now be replaced by a more student centered and inquiry-based approach to learning but also a cultural change process as school leaders, teachers, educators and parents are imbued with a new value system.

(p. 25)

Thus, at the time of writing, the authors of the NCF (MEDE, 2012) viewed IBL as a salient element in the change they were envisaging across all the educational cycles and part of the cultural shift in mentality from one targeted on exams to one directed on assimilation as a result of its implementation. Moreover, the NCF (MEDE, 2012) indicates IBL as the pedagogy that has to be implemented in the early years (p. 49). Given the trajectorial link (Hyatt, 2013)

between the two Maltese documents, the LOF (DQSE, 2015) echoes the NCF (MEDE, 2012) and asserts that the use of IBL ascertains meaningful learning experiences for children. The LOF (DQSE, 2015) asserts that when IBL is implemented:

Learning becomes more meaningful and beneficial to the children when it moves away from the ‘teaching without learning’ process to the Reggio Emilia-based approach of contextual learning (Malaguzzi, 1993).
(p. 30)

As on previous occasions, the policy authors do not make use of any modal verbs to indicate overtly to the educators what they should do but refer to the Reggio Emilia approach, whom they know is an approach admired by the majority of the local ECEC educators, to legitimise their viewpoint (Hyatt, 2013).

The NCF (MEDE, 2012) includes both exploration and experiential learning as characteristics of an enabling learning environment (p. 49). It argues that such approaches motivate children to pursue their interests while working collaboratively. In addition, the NCF (MEDE, 2012) links exploratory and experiential learning to thinking development:

Direct, hands-on experiences encourage interaction, engagement and involvement which in turn lead to improved understanding, recall and the development of mental representations.
(p. 47)

The LOF (DQSE, 2015) associates experiential learning to relational pedagogy since it argues that through the implementation of this pedagogy, new experiential learning and understanding can be constructed (p. 6). For these reasons, the Maltese documents are coherent with the Australian and the New Zealand policies.

Moreover, the EYLF (AGDoE, 2009, p.15-16) and Te Whāriki (MoE, 2017, p.46) link experiential learning to the learning environment and inspires educators to give the opportunity to the children to connect to and explore in the natural environment. Rather than adopting the

same line of thought, the EYFS (DfE, 2017) does not refer to the significance of outdoor activities. Outings are only mentioned in relation to health and safety measures (p. 29). As for the Maltese documents, both the NCF (MEDE, 2012, p. 47) and the LOF (DQSE, 2015, p. 30) refer to the significance of the learning environment in early childhood learning. The LOF (DQSE, 2015) lays more emphasis by referring to Malaguzzi (1993) who is well-known for his view of the learning environment as the third teacher in early childhood settings. The Maltese documents do not distinguish between indoor and outdoor environments, however, they both claim that every learning setting has to “challenge the minds of learners” (NCF, 2012, p. 49). Thus, the environment is seen as crucial for thinking in early years. Therefore, with regards to curriculum, the Maltese documents bear a resemblance to the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017) more than to the EYFS (DfE, 2017).

Conclusion

This chapter aimed at providing a policy review to analyse the position that the Maltese policies take vis-à-vis thinking in early years and by which foreign policies they were influenced. Table 3.1 provides a synopsis and indicates that the Maltese documents reflect the principles embraced by the Australian and the New Zealand policy documents more than those of the English statutory framework. They promote the cultivation of thinking in early years and encourage educators to create learning environments that foster thinking skills in KG-aged children.

Topic	EYFS	EYLF	Te Whāriki
Competency of the child	✓	✓	✓
Assessment	✓	✓	✓
Young children's thinking potential		✓	✓
Meaningful and intentional dialogues		✓	✓
Co-construction of new meaning		✓	✓
Curriculum		✓	✓

Table 3.1: Comparison of the Maltese NCF (MEDE, 2012) and LOF (DQSE, 2015) with the EYFS (DfE, 2017), the EYLF (AGDoE, 2009) and Te Whāriki (MoE, 2017)

The findings in Chapter 5 shall illuminate whether thinking skills were actually being cultivated in the settings as expected by the NCF (MEDE, 2012) and LOF (DQSE, 2015). Subsequently, Chapter 6 and Chapter 7 demonstrate how the intervention implemented in this research has set in motion the first steps towards the nurturing of thinking skills as advised in these policies and the literature.

The focus of the next chapter is on the methodology implemented in this study in order to fulfil the purpose of this study, which was that of cultivating and advancing the thinking skills of KG-aged children within the Maltese culture and context.

Chapter 4: Methodology

4.1 Introduction to Chapter

The incessant pursuit for a better understanding of the world and its phenomena is what drives researchers to embark on numerous studies. However, indisputably, there is no one precise “technical exercise” (Cohen, Manion & Morrison, 2011, p. 3) or blueprint that regulates how research should be approached. Its design has to be directed by the concept of “fitness for purpose” (Cohen et al. 2011, p. 115). Nevertheless, particular issues have to be attended to by any researcher in order to make the study possible and achievable (Cohen et al., 2011).

In order to address these specific issues, this chapter explains the methodological rationale of this research by first addressing the underlying ontological and epistemological assumptions. Afterwards, the discussion focuses on eight particular issues to provide sound and sufficient justifications for grounding this research on the interpretivist paradigm. In the following section, my positionality in the research is thoroughly discussed since it had a major influence on all the research process. I then elaborate on insider research to justify why it was favoured over outsider research and its evident bearing on the sample. Subsequently, I discuss case study research to clarify why it was chosen as the research design. Next, I focus on the research tools that were used for data collection, providing reasons to justify their selection, explaining how their respective ethical issues were taken into account and describing how their piloting exercises were conducted. The subsequent discussion positions the intervention within the discourse of educational change, presenting the theory of change (TOC) that was developed to support the intervention. Subsequently, it discusses the Transtheoretical model of change (TTM) (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992), which was used to inform my understanding of the process of change in the KGEs. Following this, I discuss the permissions and the ethical considerations and then clarify the measures that were

adopted to enhance trustworthiness in order to increase the rigour of the study. The concluding section, explains the data analysis process and the writing of the final report.

Before starting with the discussions, it is essential to remind that the purpose of this research was to critically evaluate the implementation of an intervention, which used the project approach to an inquiry-based pedagogy, that aimed at understanding the ways through which thinking in three and four-year-old children can be cultivated and advanced in the Maltese context. Consequently, throughout this research, I sought to address these research questions:

- a. What practices currently exist to cultivate thinking skills in these learners?
- b. How and in what ways has the intervention, which used the project approach to inquiry-based pedagogy advanced the thinking skills of these learners?

The two subsidiary questions of the second research question were:

- i. How were the pedagogy, interactions, acquisition of new knowledge and curriculum practices transformed in the settings in order to advance the thinking skills of the learners?
- ii. In what ways have the learners demonstrated that the intervention has advanced their thinking skills?

4.2 Ontological and Epistemological Positions

As explained in the introduction, it is crucial to start by clarifying my ontological and epistemological positions because all research is informed by the assumptions that researchers have about the nature of reality and the ways through which they can come to know more about that reality (Byrne, 2017). I consider reality to be relative rather than universal and absolute because people develop their subjective insights based on their experiences and context (Lincoln & Guba, 2013). Thus, I embrace a nominalist rather than a realist ontological position because I consider knowledge to be “personal, subjective and unique” (Cohen et al., 2011, p. 6). In this

study, the replies and the attitudes of the participants who were the Headteacher, the KGEs, LSEs and the children were unavoidably shaped by their own social and cultural practices (González, et al., 2005).

With such understanding of the world, I subscribe to an epistemological stance that is “transactional and subjectivist” (Guba & Lincoln, 1994, p. 111) in nature because I consider knowledge as the product of the interaction between the researcher and the participants rather than as an objective entity which is entirely independent of the researcher’s influence.

4.3 Interpretivism

My ontological and epistemological assumptions portray reality as multiple, relative and co-constructed between the researcher and the research participants. Such bearings indicate that it would be fitting to position the research within the interpretivist paradigm (Wellington, 2015). This paradigm is also interchangeably referred to in the social science research literature as “constructivism” (Guba & Lincoln, 2005, p. 193), “social constructivism” (Creswell, 2014, p. 8) and “qualitative” (Mason, 2002, p. 2), although there are slightly different elements in each of these constructs.

However, to ascertain the appropriate choice of paradigm, I followed the guidelines in Guba and Lincoln (2005), which consist of a refined version of the guidelines in Guba and Lincoln, (1994). In research, it is crucial to choose the appropriate paradigm since its positions have a ripple effect on all the methodological decisions taken throughout all the research process as well as on the approach taken to analyse the findings (Guba & Lincoln, 1994). For this reason, the following list presents eight of the issues in Guba and Lincoln (2005), which were considered to be relevant for this research and the position that this research has adopted vis-à-vis each issue to explain why the appropriate paradigm is interpretivism:

1. **purpose of inquiry:** In this research, the aim is in line with the interpretivist paradigm because my purpose was to explore and get an informed understanding about the ways in which KG-aged children can be enabled to unlock their thinking potential in the Maltese context by interacting with the research participants.
2. **nature of knowledge:** This research followed the interpretivist stance since I recognised the importance of the contextual circumstances of the participants and accordingly, engaged with the participants in their own context. I also allowed them to express their views without limiting them to a set of predetermined questions shaped by my own preconceptions as a researcher (Cohen et al., 2011).
3. **accumulation of knowledge:** In this research, I engaged in discussions with the participants and conducted observations in order to better understand their opinions and experiences so as to sharpen my insight on how thinking can be cultivated more constructively in these kindergarten settings.
4. **quality of an inquiry:** To ascertain trustworthiness in this research, the constructs proposed in Guba (1981), which are credibility, transferability, dependability and confirmability were applied and followed throughout the whole process. The reason is that these constructs are more appropriate for qualitative naturalistic research than validity and reliability as understood within the positivist paradigm (Shenton, 2004). Authenticity is the fifth criterion added by Guba and Lincoln (1989, 1994) with the intention of strengthening trustworthiness in qualitative research (Seale, 2010). Guba and Lincoln (1994) argue that research can be recognised as authentic if it accomplishes “fairness”, “ontological authenticity”, “educative authenticity”, “catalytic authenticity”

and “tactical authenticity” (p. 114). The trustworthiness and authenticity of this research are thoroughly discussed later in this chapter in Section 4.11 on trustworthiness.

5. **axiology:** With regards to this research, my role was to facilitate the whole process and I consider my positionality to have played a central role and to have shaped all the research process, in particular its purpose and the decision to conduct insider research. I fully acknowledged that my understandings were inevitably influenced by my own values, beliefs and previous experiences (Creswell, 2014). In view of this standpoint, my positionality is meticulously discussed in the next section of this chapter.
6. **ethics:** In this research, ethical principles were painstakingly considered in virtue of respect towards the participants. Informed consent and assent were sought from the participants and the purpose of the study was clearly explained at the beginning of the inquiry. The ethical considerations of this research are further elaborated later in Section 4.10.
7. **the stance of the researcher and control of the researcher on research:** In this research, it was ascertained that the voices of all the participants were heard and they contributed towards a better understanding of the inquiry. They served to encourage change in the practice of the educators so as to enable young children to foster their thinking skills in their kindergarten settings.
8. **researcher’s training in preparation for research:** I studied and familiarised myself with all research paradigms to understand the difference in their underlying philosophical assumptions and their impact on the whole inquiry process before selecting interpretivism.

The positions that I took in my research with regards to the issues discussed above provide sufficient and firm grounds to locate this research within the interpretivist paradigm. Besides these issues, I need to add that throughout the research process I actively engaged in a continuous process to explain and not merely describe how the events evolved (Yin, 2011). Additionally, apart from involving different participants, multiple research methods were used to provide a more informed picture of reality and thus, avoid depending on a single source of evidence (Yin, 2011). Like a “bricoleur” I felt the need to create a tableau with the evidence gathered from the various research methods in order to produce a deeper and richer interpretation of reality (Denzin & Lincoln, 2005, p. 4).

As discussed above, interpretivist researchers must clarify their position at the beginning of the inquiry process because axiological postures are as influential as the ontological, epistemological and methodological suppositions (Denzin & Lincoln, 2005; Lincoln & Guba, 2013). Therefore, at this stage, I deem it appropriate to discuss my positionality, or “standpoint epistemology” (Lincoln, 2011, p. 280) since this formed an integral part of my reflexive process and it affected all the inquiry process from the aims to the research design, data collection and analysis. The reflexive process is discussed later in Section 4.12.

4.4 Positionality

The acknowledgement that any piece of research is value-laden by the principles of its maker forms part of the researcher’s integrity. Failing to recognise and explicitly reveal their situatedness or in Bourdieu’s (1990) terms their “habitus” (p. 55), researchers risk to minimise the quality of their research. As well articulated by Lincoln (2011) “texts that claim whole and complete truth or that claim to present universal...generalizable knowledge...are themselves specious, inauthentic and misleading” (p. 280). In light of these assertions, in this section, I

discuss my positionality and biases with regards to the topic of the inquiry, the research context, the participants and the research process (Cousin, 2010; Creswell, 2014; Wellington, 2015).

I am a junior years primary teacher by profession. At the time of data collection, I worked as a Deputy Headteacher in a primary church school in Malta and was responsible for the administration of Years 1-3 at the school as well as of two annexed kindergarten schools. My interest in ECEC started when I was appointed in this role and the Headteacher gave me the responsibility of these two kindergarten schools. These schools had two settings each, KG1 and KG2. It was during the same year when I took on my new role that these kindergarten schools were annexed to the primary school for the first time.

Having a bachelor's degree in primary education and a Master's degree in educational leadership, I suddenly felt that I needed to learn more about ECEC, especially about the kindergarten years because I wanted to be able to provide them with authentic support as their leader. I aspired to design a holistic and continuous programme that included all the learning areas specified in the national educational policies that would start in the kindergarten schools and progress seamlessly throughout the early years in the primary school.

As an initial fledgeling step, the Headteacher and I, as administration, decided to focus on pre-reading and pre-writing skills and expected the KGEs to direct their attention to these areas. This decision was taken in view of the fact that the officially issued kindergarten assessment reports that had to be filled by the KGEs twice a year, focused predominantly on these skills.

However, as I got more interested in ECEC and started to review the national policies and international literature and started to visit the kindergarten schools, I gradually became more sensitive to the fact that the existing kindergarten programme was not enabling the children to

develop across all areas as desired. The commitment of the KGEs to prepare attractive activities to complement the prearranged pre-reading and pre-writing activities and to integrate everything around themes was evident. However, I noticed that these activities were not advancing thinking in the children. Progressively, I became fascinated by this topic and decided to embark on this doctoral journey with the intention of using my research effectively in my work. This was the reason behind my decision of doing insider research.

4.5 Insider research

Sikes (2006) defines insider researchers as “doing research, often with an action or interventionist element and intention, focused on a topic in their own workplace” (p. 110). In this case, the research involved an intervention which consisted of the implementation of four different inquiry-based projects to enhance the children’s reasoning and understanding in the two kindergarten schools whose administration formed part of my work responsibilities.

Insider research offers multiple advantages to the researcher, which are associated with ease of access of the research field, better response and more trust from participants and a better understanding of the cultural context (Atkins & Wallace, 2012). It would be dishonest not to admit that I benefitted from these advantages but I also have to acknowledge that conducting insider research from a position of power, meant that I needed to come to grips with my biases in order to minimise the possibility of ending up with a “potentially dodgy” (Sikes, 2006, p. 110) research.

The selection of these two schools as research context and their respective children and practitioners as research participants were the most important to ruminate over. Since I wanted to make concrete and significant use of my study in my work, outsider research was definitely not feasible. As a result, their practitioners, namely, their KGEs and LSEs and children became

my “purposive sample” (Stake, 2006, p. 24). Thus, this was not a “convenience” (Hatch, 2002, p. 51) sampling strategy based on the fact I had effortless access to the schools. Even though I could easily access the schools and as part of the school policies, I already had the consent of all the parents and educators to take photographs and videos during activities, all participants were asked again to give their consent for this specific study. It was still a challenge to gain the trust and permission of the educators and the parents because here I was asking for consent to conduct personal research and not to organise an activity related to the school.

My choice of schools, also meant that I had to consider other biases due to my position as Deputy Headteacher, for instance, the “Hawthorne effect” (Drew, Hardman & Hosp, 2008, p. 223), the “halo effect” (Denscombe, 2014, p. 70) and the “observer effect” (Denscombe, 2014, p. 70). These effects denote a modification in people’s behaviour caused by the fact of being participants in a study. I was aware that a change in the participants’ behaviour or responses due to my position would impinge upon the trustworthiness of my research. To reduce these biases, on my visit to the schools to explain my research, I emphasised that the sole aim of the study was to enhance the children’s reasoning and understanding and that there was no hidden agenda. With reference to the research process, I clarified that the FCs and my observations were to be focused on the activities and the interactions that were to take place in the settings in relation to the topic and were not going to be used in any way to judge them as educators or as part of the school’s internal appraisal system. This aim was emphasised on multiple occasions throughout my visits to the schools to reduce any apprehensions that the educators might have had about how the data might be used by the school when my research was concluded (Atkins & Wallace, 2012).

Another bias associated with insider research is the degree of “impartiality” (Atkins & Wallace, 2012, p. 2) that researchers manage to obtain from the topic of inquiry within the

institution. This issue became of particular importance when I was seeking deeper insight into the situation. The first tentative consisted of trying to make the familiar strange (McCulloch, 2004). However, as debated by Greenbank (2003), impartiality is never obtained in research because it is always affected by the political views and motives of the researcher. In view of this, I sought to minimise this bias, by implementing the strategies of “radical listening” (Clough & Nutbrown, 2012, p. 185) to the opinions of the participants and by “radical looking” at what was happening in the activities (Clough & Nutbrown, 2012, p. 185). Thus, these initial FCs and observations enabled me to take into consideration the various interpretations that the participants held about the inquiry and to sharpen my awareness on what was actually taking place. The triangulation of this data allowed me to make an attempt at getting a clearer understanding of the situation and to avoid falling into the trap of thinking that my own interpretation of the situation was the only one possible and was superior to those of others (Atkins & Wallace, 2012; Mercer, 2007).

Since my positionality and biases permeated all the methodological considerations and ethical procedures of the research, they are also discussed in other subsequent sections, particularly when discussing the case study design (Section 4.6). Besides the biases discussed above, others are debated entirely in other sections because they fit better in those discussions. Accordingly, confidentiality issues are explained when arguing about the research’s trustworthiness (Section 4.11) and the participants’ unrestricted decision to take part is discussed as part of the ethical considerations (Section 4.10). I shall also refer to how I reflected on my biases in my research journal in the section on reflexivity (Section 4.12).

4.6 The Research Design: Case Study

Yin (2009) defines research design as “...the logical sequence that connects the empirical data to a study’s initial research questions and, ultimately, to its conclusions” (p. 26). Such

definition heightens the importance of the design since it is the link that interlocks all the subsequent stages of an inquiry.

Social science literature presents various qualitative research designs through which researchers can approach their inquiries. Among the most frequently used types, there are ethnography, phenomenology, case study, historical and documentary research, participatory action research, grounded theory and narrative research (Creswell, 2007; Denzin & Lincoln, 2005; Yin, 2009). Keeping in mind Yin's (2009, p. 26) definition of research design quoted above, researchers are bound to choose the alternative that is the most appropriate and reasonable to address and answer the research questions.

In this research, the purpose was to get an insightful understanding of the ways through which thinking in three and four-year-old children can be cultivated and advanced in the Maltese context. Thus, the focus was on achieving more understanding of a phenomenon through the implementation of the cases in particular contexts (Creswell, 2007; Yin, 2009). In virtue of this focus, the appropriate approach for this inquiry was the case study, which is defined by Bassey (1999) as the "study of a singularity conducted in depth in natural settings" (p. 47).

Other "strategies of inquiry" (Denzin & Lincoln, 2005, p. 375) were not deemed to be appropriate. Ethnographical research was not suitable in this case because the focus was not to describe a group or a culture (Cohen & Crabtree, 2008). Phenomenological research was unsuitable because I did not aim to understand the real meaning of an experience (Creswell, 2007). Historical and documentary research did not fit since my aim was not to understand the past, the courses of change and continuity over the years or to interpret the present based on past events (Cohen et al., 2011). Participatory action research was not appropriate either because here I had the entire responsibility of the research and the objective was to gain a deep

understanding of the studied inquiry instead of generating findings for the participants (Carr & Kemmis, 1986). Grounded theory was not used because I did not aim to generate new theory based on data (Charmaz, 2005). Narrative research was also excluded because here I was not interested in any biographical details of particular individuals (Chase, 2005).

In case study research “... the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, though detailed, in-depth data collection involving multiple sources of information ... and reports a case description and case-based themes” (Creswell, 2007, p. 73). In this definition, Creswell highlights the salient features of case study research, which is characterised by a focus on a particular issue within a particular context. This typology of research carries several benefits and permits in-depth research which is otherwise not possible through other methods of inquiry. Referring to the field of education, case studies can serve to inform new policies and to evaluate already existing policies (Timmons & Cairns, 2012). They allow the researcher to focus on particular phenomena and delve into detail to provide insightful understandings on exceptional circumstances (Wellington, 2015). However, case study research has its limitations, which are related to the issues of rigor (Yin, 2009). This is due to the fact that replication and generalization cannot be easily conducted (Wellington, 2015). However, if we remind ourselves that the case study aims at generating deep understanding; to understand “how ... why” (Yin, 2009, p. 2) such issues are no longer viewed as limitations because case studies are not conducted for those purposes. Yet, by following the guidelines in Guba (1981), researchers can still ensure that their studies achieve credibility, transferability, dependability and confirmability. Such issues are discussed in detail in the section on trustworthiness where they are argued in relation to this research (Section 4.11).

Stake (2005, p. 445) identifies three forms of case studies; the “intrinsic”, the “instrumental” and the “multiple case study”. While both the intrinsic type and the instrumental

type focus on one case, their interest varies. In the former, the interest is on a particular case because it is rare and exceptional whereas, in the latter, the case serves as a means for a better understanding of a phenomenon (Stake, 2005). The multiple case study type is also instrumental but it involves different cases studied together. All case studies are interesting in themselves but they serve the higher purpose of providing deeper insight into the inquiry and thus, to achieve a more robust result (Chmiliar, 2010; Stake, 2005).

Following Stake's definitions, this case study can be categorised as a multiple case study because it involved the sequential study of four cases in order to examine and provide more understanding of a phenomenon (Stake, 2005). Implementing multiple case study research was time-consuming but these four discrete scenarios enabled me to achieve more insight into the "quintain" (Stake, 2006, p. 4). It was possible to observe common features of the studied phenomenon that occurred in all settings as well as to discover other aspects that emerged in only one setting because such design facilitates "replication" and "extension" (Santos & Eisenhardt, 2004, p. 685).

Referring to the types of case studies identified by Robson & McCartan (2016), this multiple case study can be classified under "Studies of organizations and institutions" (p. 153) because it was conducted in two kindergarten schools to understand how thinking skills in young learners can be fostered through an inquiry-based pedagogy. Figure 4.1 provides a general overview of the whole case study design which was spread over six months.

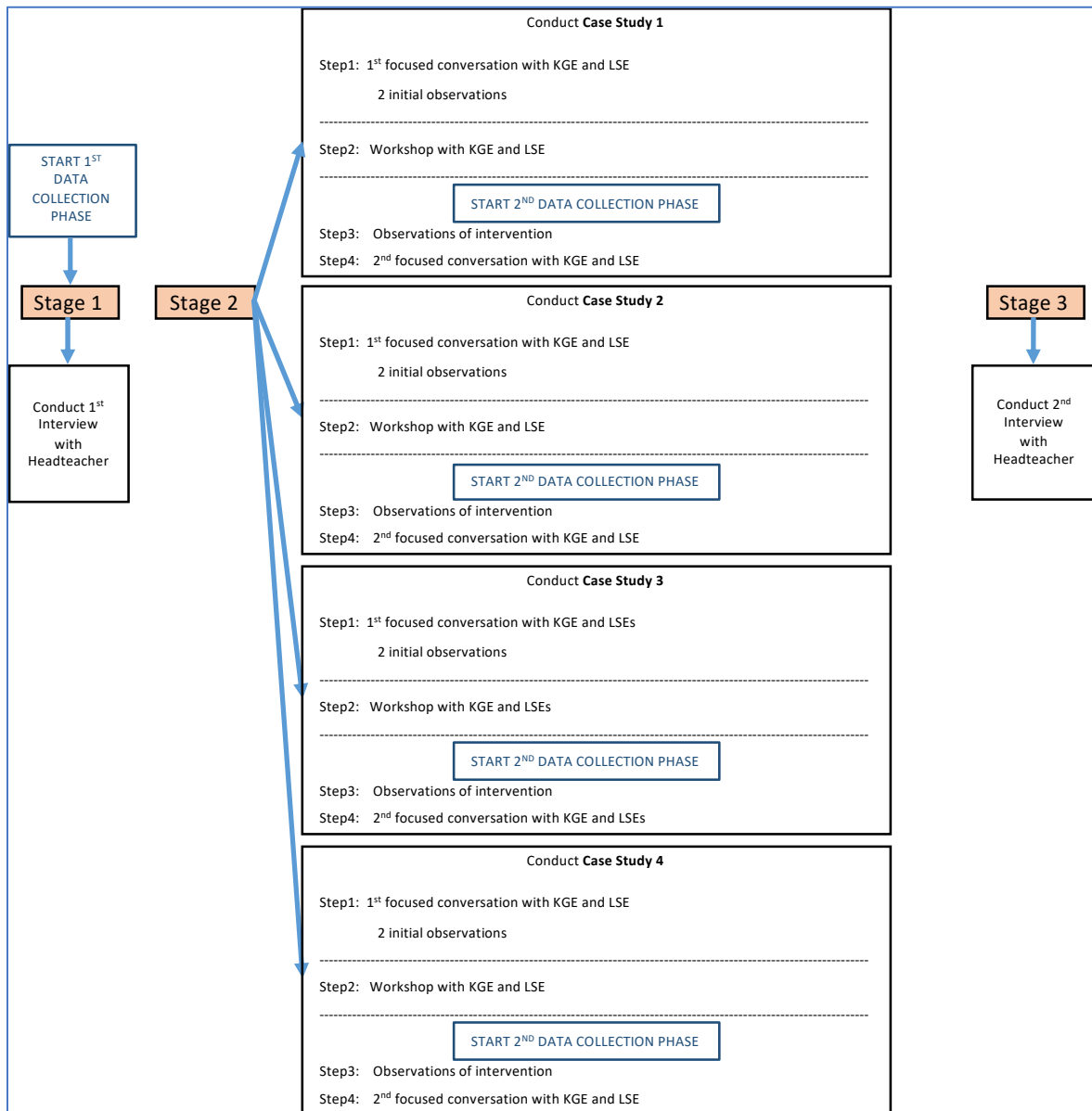


Figure 4.1: General overview of the case study design

4.6.1 The research context.

Before proceeding to describe the design itself, it is appropriate to provide further detail about the research context and the sample. As already discussed in this chapter, this multiple case study was conducted within two kindergarten schools in Malta. These schools have two settings and therefore, four settings were involved in this multiple case study.

4.6.2 The sample.

Mason (2002) claims that sampling in qualitative data depends upon the area of interest and the detailed descriptions that are expected in such research. Provided that this is insider research, the sample can be described as “purposive” (Stake, 2006, p. 24). These four particular settings were chosen because I was their curriculum leader and I wanted to make concrete and significant use of my study. The sample consisted of:

- the Headteacher as leader of both schools;
- nine KGEs and LSEs who worked in these settings and
- sixty-seven KG-aged children who attended these settings.

Since I argue that leadership is key to school improvement, the Headteacher was included in the sample. The four KGEs working in these schools had different qualifications that can be obtained locally in order to work as KGE. The five LSEs were all supply, studying to get the necessary qualifications to become regular. The children were three and four-year-olds who resided in various locations across the island.

The four KGEs working in these schools had different qualifications and years of experience. Table 4.1 indicates the fictitious names of the KGEs and of their settings that will be used throughout the thesis as well as their qualifications and number of years of teaching experience in kindergarten. Reference to this table will be made at later stages while discussing the findings related to the changes in the perspectives of the KGEs.

Name	Setting	Qualification	Years of Experience
Miss Melita	Rebbiegħa Setting	Certificate of Achievement	24 years
Miss Philippa	Sajf Setting	KG/Nursery Teacher's Certification	23 years
Miss Miriam	Harifa Setting	KG/Nursery Teacher's Certification	22 years
Miss Victoria	Xitwa Setting	B.Ed. (Hons.) degree in ECEC	9 years

Table 4.1: Qualifications and years of experience of participant KGEs

Miss Philippa and Miss Miriam had The KG/Nursery Teacher's Certification. This was a full-time two-year course organised by the then Education Division, which today is known as MEDE (MEDE, 2006). This course was run from 1991 till 2003 and the entry requirements consisted of four GCE Ordinary level passes including Mathematics, Maltese and English (MEDE, 2006).

Miss Melita had the Certificate of Achievement. The training for the certificate was organised following a Memorandum of Understanding in 2009 between the Directorate for Educational Services (DES), the Directorate for Quality and Standards in Education (DQSE) and the Malta Union of Teachers (MUT) to upskill all the unqualified kindergarten practitioners in employment (DES/DQSE/01/2009). Three courses were held according to the number of years in employment: a 70-hour course for those practitioners having 30 years of experience or more; a 140-hour course for the practitioners having between 20 and 29 years of experience and a 210-hour course for those practitioners having between 15 and 19 years of experience (MEDE, 2013b). Miss Melita attended for the most intensive course since she had 17 years of experience when she started the course.

Miss Victoria had a B.Ed. (Hons.) degree in ECEC from the University of Malta. The University offered this five-year part-time degree course to employed KGEs between 2009 and 2011 following the 2007 Agreement between the Government and MUT (2007), which established that from 2015 onwards, all KGEs had to own a degree (MEDE, 2013b).

The fact that this is insider research also meant that I did not include any other kindergarten settings in other schools. Involving other settings was beyond the scope of this research but conducting a similar study in various kindergarten settings across all sectors can be considered as possible successive research to be conducted after the completion of my doctoral journey.

4.7 The case study design

In the initial stages of the research plan, I intended to conduct a single instrumental case study in only one setting. However, being the curriculum leader of all four, it was quite a dilemma to decide which one to choose. I did not want my decision to look as if I was preferring some educators over others and consequently, ruin the professional relationship and friendship I had with the rest (Taylor, 2011). They all knew that I was doing this doctoral study and when they learnt that I was researching ECEC, they all invited me to conduct my research in their setting. They were all eager to help and the prevailing remark was that they were willing and open to learn more about new and effective pedagogical practices.

As I shall explain in more detail in Section 4.12 on reflexivity, I kept a reflective journal that accompanied me all through the research process. It was vital in helping me to articulate my thoughts, to reflect upon them and eventually make the decisions that affected the course and development of the study. After reflecting upon the pros and cons of the situation, I revisited my research design and decided to conduct four case studies; one in each setting. I knew that this ethical decision was going to involve much more effort, time and resources on my part but I

could not run the risk because I felt that in one way or another, the consequence of my decision would affect the social and professional dynamics at work. Moreover, I also knew that due to the advantages associated with multiple case studies, this decision was going to enable me to achieve a more robust result at the end of the study because their analyses would deepen understanding and explanation (Creswell, 2007; Herriott & Firestone, 1983; Merriam, 1988; Miles, Huberman & Saldaña, 2014).

Accordingly, the research design was modified to a multiple case study, which consisted of three principal stages. In the first stage, I conducted an interview with the Headteacher. It is important in such case studies to include the key school leader because they play a major role in the implementation of change (Leithwood & Riehl, 2003). Details on the interview are provided in Section 4.8.1.

The second stage consisted of four sequential case studies; one in each setting. Each case study followed four consecutive steps. As a first step, I conducted an FC with the KGE and LSE/s of that setting and two observations. The reason was to get an informed understanding, as much as I could, of the existing situation in order to avoid letting my preconceptions to dominate over that of others (Guba & Lincoln, 1994). As an insider, I felt that the existing curriculum was limiting the children from cultivating their thinking skills but I wanted to ascertain myself that I was not running the risk of assuming that my viewpoint was far more widespread and sharper than it actually was (Mercer, 2007). As succinctly pointed out by Wolcott (2008), "...there is no monolithic insider view...Every way is a way of seeing, not the way" (p.144). I needed to engage in the processes of "radical looking" and "radical listening" as suggested by Clough and Nutbrown (2012, p. 26). I needed to be present in the settings for prolonged periods in order to capture the implicit messages that were difficult to perceive during my normal school visits.

For this purpose, two research methods were used; FCs and observations. An FC was conducted with the respective KGE and LSE/s of each setting to listen to their standpoints about thinking and reasoning in young children and to find out how and which strategies they were using to enable the children to foster such cognitive skills. Further details are given in Section 4.8.1 on interviews.

Subsequently, two two-hour-long observations were conducted within each setting to try to make the familiar strange (McCulloch, 2004) in order to discern how thinking was being fostered and advanced in actual practice and what pedagogical approaches were being used in these settings. Although it was challenging to look at a familiar situation from a different angle, I had to do it because otherwise I would have risked being driven by my preconceptions. As argued by Lenz Taguchi (2010a), “Sometimes we are so deeply embedded and inscribed in the dominant discourses of our own research field as qualitative researchers, that everything we think we can see in the data is what we already know” (p. 50). Thus, I reflected on my notes over and over again to engage in a reflexive process in order to discern the underlying reasons of the observed actions. The reflexive process is discussed in Section 4.12.

Methodological triangulation was then implemented, using the data gathered through the interview with the Headteacher, the FCs and the observations. Methodological triangulation is further discussed in the section on trustworthiness (Section 4.11).

From the FCs and the observations, it became more evident that the majority of the activities were heavily structured and led by the KGEs whose main concern was to manage to teach all the prescribed pre-reading and pre-writing skills. Thus, as a second step, a workshop was held with the practitioners of each respective setting in which I further explained the inquiry-based pedagogy and how this could be translated into practice through the

implementation of the project approach (Katz & Chard, 1989). Project-based learning was thoroughly discussed to clarify how opportunities can be set up for the children to explore and foster their own knowledge and thinking (Harris Helm & Katz, 2016; Katz & Chard, 2000). Concrete examples were used to demonstrate how the project approach promotes experiential learning and how the acquisition of pre-reading and pre-writing skills can be rendered more purposeful for the children (Chard, 2014). Other important elements that were discussed were the “pedagogy of listening” (Rinaldi, 2006, p. 15) and the “funds of knowledge” approach (Moll et al., 1992).

During these workshops, it became more clear that three of the KGEs were new to inquiry-based pedagogy and the project approach, while the fourth one, who was the most qualified, was more familiar. Thus, for the actual implementation of the projects, the former required more support from my end. In their case, I prepared the initial learning provocation and during the subsequent visit to their settings, a meeting was held with each of them to discuss how these learning provocations could be developed into open-ended investigations and meaningful learning opportunities. I also gave them several examples of kindergarten activities and resources that could be used to facilitate multi-sensory learning and experimentation.

With regards to the fourth KGE, preparation from my end was not necessary and during the meeting that followed the workshop, she explained how she intended to develop the project, starting from the interests of the children that emerged through Circle Time and then developing learning step by step.

There were different reactions to these ideas discussed during the workshops, having some educators saying immediately that they could be implemented and others asserting that

they had to try them first to see if they were practical. The most interesting thing about these workshops was that they enabled the educators to engage in reflection (Schön, 1983).

Throughout the implementation of the projects, I observed the educators, in particular the KGEs who commented to each other about what they were noticing vis-à-vis the concepts that were discussed in the workshops. The reflective process initiated with the workshops continued throughout the implementation of the projects. At the end of every observation, I stayed in the settings for some more time, depending on my agenda, to talk to the educators. During this time, we discussed what additional resources and activities could help the children in the pursuit of their working theories. I noticed that during these short discussions, the educators linked what was discussed during the workshops to what was happening in actual practice and these reflections were gradually enabling them to modify their views.

The third step was the most significant in each case study because it consisted of the implementation of the projects. The quantity of time spent observing in each setting depended upon the duration of the project and the activities. In total, an average of forty-eight hours of observations was conducted across the four case studies during Step 3.

Case study	Duration	Observation time in setting
Case Study 1	7 days	8 hours 13 minutes
Case Study 2	7 days	8 hours 55 minutes
Case Studies 1 and 2		1 hour of joint concluding activity
Case Study 3	9 days	12 hours 15 minutes
Case Study 4	11 days	16 hours 7 minutes
Case Studies 3 and 4		1 hour of joint concluding activity

Table 4.2: The duration of the projects

4.7.1 Overview of case studies.

The seasons in Maltese were used as names for the settings.

4.7.1.1 Case study 1: Rebbiegha Setting.

The project in this case study took place in a setting of fourteen children and it was spread over seven days. The staff consisted of a KGE and an LSE. In this setting, this was the first time that project work was going to be implemented and consequently, I helped in the choice of topic. The topic chosen was Birthdays and the idea emerged during Circle Time from a discussion that the KGE had with the children about the new month which had just started. Some of the children, who were going to celebrate their birthday during that month were highly engaged in this discussion and eventually, all the children started to talk about their birthday.

Since from the workshops, it resulted that the introductory activity seemed to be the major stumbling block for the KGEs who were new to project work, I also helped in its planning. The topic was introduced through a puppet show in which two of the settings' puppets, Bella and Tom interacted with the children about the new month which has just started and the children learnt that Bella was going to celebrate her birthday the following week. Tom asked the children for their help to organise a big birthday party at school for his friend Bella. Following a discussion on the topic, the KGE and the children built a web to summarise the children's prior knowledge and the areas that they wanted to explore in preparation for Bella's birthday. During this project, the children worked on preparing birthday cards, presents, treats and a cake. Throughout the whole project, the children were encouraged to discuss their learning experiences at home and they were invited on multiple occasions, to talk about this in the setting.



Figure 4.2: Discussing the interest in birthdays

4.7.1.2 Case study 2: Sajf Setting.

In this case study, a project was developed in a setting with 20 four-year-olds led by a KGE with the help of an LSE. It was spread over seven days and as for the first case study, I also helped in the choice of topic and in planning the introductory activity for the same reasons. This project was developed at the beginning of the third term, soon after the children returned to school after the Easter holidays. During the first Circle Time, the children talked a great deal about the Easter treats that they had eaten, which led to a discussion on healthy eating and habits. It was evident that the children wanted to learn more about the topic and therefore, 'Healthy Lifestyle' was chosen as the area of interest. To introduce the topic, the KGE used Victor the settings' talking soft toy who told the children that he was not feeling well after the Easter holidays because he had eaten a lot of chocolate eggs and disregarded his health. He then asked the children to help him to get back in shape and to suggest ways through which this could take place. The children drew several pictures which were then stuck on a chart to form a web on the topic with the intention of determining their prior knowledge, misconceptions and questions. Throughout the project, the children investigated their lunches and their school play area, conducted experiments to determine healthy drink choices, learnt about personal hygiene and prepared healthy food and treats. After every activity, the children were encouraged to go home

and discuss it with their parents. The following day always started with Circle Time to summarise what they have learnt and to share what they have learnt from the discussions they were having at home with their parents about their learning.



Figure 4.3: Observing and comparing the varieties in lunches

Case study 1 and 2 were conducted in the same school. As a concluding activity for both projects, a common event was organised for both groups to share their learning. This was Bella's birthday party. Both cohorts shared the food and sweet treats they have prepared and with the help of their KGEs talked about what they have learnt through their projects.

4.7.1.3 Case study 3: Harifa Setting.

The kindergarten setting for this case study had nineteen four-year-old children, one KGE and two LSEs. This ten-day project focused on trees and as in the two projects described above, I provided guidance in the choice of topic and initial activity for similar motives. During the project, the children were going to be taken on an outing to a public park. This outing was already booked when I approached the KGE to set the date for the implementation of the project. Bearing in mind the outing, the topic of 'Trees' was chosen for this project because the idea of integrating the school outing into the project was considered interesting and innovative by the KGE. Normally the purpose of the outings was having outdoor fun but on this occasion, the

outing was also going to be transformed into a learning experience. As a provocation, an arrangement was set up in a strategic place in the setting using wooden logs, leaves and acorns with two elves sitting on top. During the first activity, the elves Zippy and Zappy informed the children that they came there from the private garden overlooking the school, looking for a new home because someone chopped down their home. This introduction led to a discussion on trees which served the KGE to get a clear picture of the collective baseline knowledge that the children had on the topic, their misunderstandings and curiosities. These thoughts were then represented in drawings. During the project, the children searched about the life cycle of trees, conducted fieldwork at the park, recorded their findings, investigated the material gathered during the fieldwork and explored multiple materials and things made out of trees and the symbiotic relationship between the trees and the environment. Throughout the project, the children were given the task of discussing their learning at home and they were frequently asked to share their experiences.



Figure 4.4: Provocation setup with Zippy and Zappy

4.7.1.4 Case study 4: Xitwa Setting.

The final case study was conducted in a setting consisting of fourteen children, one KGE and one LSE. The project took eleven days to complete and the KGE did not require my support to choose and introduce the topic in the setting. In her practice, she was used to organising Circle

Time and choose the topic according to the interests of the children. As an initial activity, Circle Time was organised in which the KGE asked the children if there were any more areas they wished to explore related to the sea, which was the topic they had been learning about or to mention any other topic they wished to explore. From the discussion, it resulted that the interest in the 'Sea' topic wore off as the children started to mention trains. The new interest derived from the fact that during that week, they were taken on a school outing which included a train ride on a fun train around one of the historical cities in Malta. As in the previous case study, this outing was also booked before I agreed with the KGE on a date to start the observations. The parents were informed by the KGE about this new interest of the children to send any material that they had related to the topic and to encourage them to continue discussing the topic with the children at home.

During a subsequent Circle Time, the children shared their prior knowledge on the topic of 'Trains' and a web was built indicating the areas they wanted to learn about in relation to the topic. The majority of the children did not have a first-hand experience of trains given that there is no such service on the Maltese islands. Thus, most of the work was based on what the children learnt from their toys, books and the internet. With the support of their KGE and LSE, they researched in books and online to discover different types of trains and their use as well as to learn about other related features, for instance, train tracks and train stations. They learnt about the various parts of the train and used this knowledge to build their own mobile cardboard train for them to fit in and play with. This cardboard train literally became *the vehicle* for endless learning opportunities and creativity.



Figure 4.5: Building the mobile train

Case study 3 and 4 were conducted at the same school. At the end of the second project, a common activity was set up for the children to share their learning experiences. With the guidance of the practitioners, the children moved between the two settings and they were encouraged to refer to the displays and their own creations to talk and share with others what they have learnt.

The fourth step of each case study consisted of an FC with the staff members of each respective setting, which was conducted soon after the end of the project. These conversations aimed to discuss the various thinking skills that the children developed through inquiry-based pedagogy. Displays, children's work and my fieldwork notes were used to facilitate these conversations.

4.7.1.5 Sharing preliminary findings with Headteacher.

To conclude the whole research design, another interview was conducted with the Headteacher. This constituted the third stage of the research design. It is important to share research findings with school leaders because they are crucial for school improvement (Leithwood & Riehl, 2003). The objective was to elicit the Headteacher's general opinion of the research project. The photographs taken during the projects facilitated the interview since they

were used to demonstrate the various learning opportunities and to discuss the process of change that led to the fostering of thinking skills in the children. Besides sharing preliminary findings, I also wanted to know her thoughts about the transformative process towards a pedagogy of thinking initiated by this research and whether she agreed that it would continue.

Throughout the whole research design, three data collection methods were used; the interview, the FC and the observation. These research methods together with their application in this study are the focus of the next section.

4.8 Research Methods

Albeit in empirical research there are several research tools, they cannot be applied in any given study. The instruments for data collection have to be chosen for their appropriateness in order to obtain “useful” and “usable” (Cohen et al., 2011, p. 375) data. In this research, which is undergirded by the ontological and epistemological positions that knowledge is constructed socially and contextually and in which the case study was chosen as the suitable research design, the interview, the FC and the observation were chosen as data collection instruments.

With regards to the collection of the participants’ views, it can be argued that questionnaires are also a feasible research tool (Cohen et al., 2011). However, here I wanted to go beyond the shallow surface; I was after a meaningful understanding and a true representation of the participants’ thoughts as well as any non-verbal cues that arose during interactions (Frost, 2007; Yin, 2011).

Although interviews and FCs have common characteristics, they differ in other aspects. For this reason, they are discussed separately in the two following sections.

4.8.1 The interviews.

Interviews are particular because they enable researchers to elicit the “unobservable” (Wellington, 2015, p.137); to tap into the participants’ opinions, principles, biases. Although interviews may not always be conducted in person and may have varying degrees of structure, I preferred to conduct face-to-face semi-structured interviews with the Headteacher. Such format allowed the use of the slide presentation in the first interview and the children’s work and photographs in the second interview to facilitate the whole process. The semi-structured approach was selected because it fits one-off interviews, avoids biased responses and reduces any interviewer impartialities in result interpretation (Ribbins, 2007). It also enabled me to have a pre-planned schedule with a set of questions that were then asked in a flexible manner according to the pace of the interviews (Wellington, 2015).

The interview schedules were developed by following the advice in Wellington (2015). In both cases, the initial brainstorming exercises led to the development of meaningful questions that I wanted to ask the Headteacher as leader of both schools. In the first interview, I started by eliciting her views on various aspects: on thinking skills in young children; on the importance that thinking skills are given in national policy documents; on the elements she thought were important to cultivate thinking skills in the settings and on the cultivation of thinking skills in the four settings. Moreover, I included a slide presentation and concrete examples to give her some background information about inquiry-based learning. I wanted to know her views, particularly on whether or not she thought that IBL could be implemented within our context. In addition, I also asked her some questions about the association between the cultivation of thinking skills and holistic development, formal education and lifelong learning skills. The interview ended with a question about her expectations for this case study (Appendix C). The raw data

generated from this interview was used in the methodological triangulation conducted during the first phase of data analysis.

The objective of the second interview was to elicit the Headteacher's general opinion on the whole research project, whether it has met her expectations and on whether she wished that the educators would proceed with the process of change. Samples and photographs of children's work were used to demonstrate how these young children were enabled to start the process of unlocking their thinking potential. Although the schedule consisted of only three questions, the second interview took an hour because of the discussion and continuous reference to photos and artefacts (Appendix D).

It is suggested that researchers pilot interview questions before the actual implementation of the tool (Fontana & Frey, 2005). For this reason, the schedules were piloted with a colleague who was a doctoral student also researching ECEC in the Maltese context.

Due to the tight agenda of the Headteacher, the interviews were scheduled and the use of a digital voice recorder was agreed beforehand. They were conducted in Maltese since it is the mother tongue of both the Headteacher and I. Using our mother tongue facilitated the process and helped me to better present myself as a learner rather than as *the* doctoral student in the school (Fontana & Frey, 2005).

Although it was time-consuming to transcribe the audio recordings, they facilitated the observation of non-verbal cues and permitted me to relisten to the data when this was necessary. Both interviews were transcribed in Maltese and then translated to English. To ensure the faithfulness of the translations, both transcriptions were given to the interviewee for "respondent validation" (Cohen et al., 2011, p. 134). All transcriptions were acknowledged by the

interviewee who did not ask for any changes to be effected. Reference to the interviews is made again when discussing ethical considerations and trustworthiness.

4.8.2 The focused conversations.

For the participant educators, I wanted to find a research tool that would allow for the eliciting of their views and experiences in a context in which they could share and reflect upon their contributions as a group. Here, I was after organising conversations on a shared interest among small groups of staff members who knew each other very well since they were already working in the same setting before the study started. I wanted to give every educator the opportunity to voice her opinion in order to discover common practices without making any of them feel overwhelmed or judged due to my position of power. In view of this, I selected the “focused conversation” as research tool as it is suggested in Clough and Nutbrown (2012, p. 86) since it meets all the criteria I had in mind. Thus, during these conversations, I sat down side-by-side with the participants in the schools’ multi-activity rooms, in order to be in an informal context familiar to them and I ensured that I did not go for these workshops in formal attire. (Fontana & Frey, 2005; Wellington, 2015).

I held eight FCs, two with the staff members of each setting. The first four were held at the beginning of each case study and the second four after the observations of the intervention. In the initial FCs, the participants’ views on reasoning and thinking in young children, the importance that these cognitive skills are given in national policies and the strategies they were using to enable the children to nurture these skills were discussed. IBL was also discussed in order to gather their views on their application within their settings. As in the case of the interview with the Headteacher, I asked them some questions about the link between the cultivation of thinking skills and holistic development, formal education and lifelong learning skills and their expectations for this case study (Appendix E). In the second set of FCs, each

group evaluated the process of change towards a pedagogy of thinking that was set in motion in their setting (Appendix F). They shared their opinions about IBL, referred to significant instances in which the children applied their thinking and discussed how the case study enabled them to reflect upon and improve their practice. The topics that were going to be discussed during the conversations were known to the participants beforehand.

During these FCs, the educators were quite at ease, were very willing to share their experiences and commented confidently about each other's responses. I could sense that they were considering me as one of them and not as someone who had a higher position in the school.

In view of the reasons delineated above, the interview was not a suitable research method because I was interested in the participants' shared experiences and wanted to create a situation in which each educator had the opportunity to listen and subsequently reflect on what others were saying (Clough & Nutbrown, 2012; Wellington, 2015). The focus group was not appropriate either because it entails rigid procedures and the groups that are formed specifically for the research, cease to meet once the data is generated (Cohen et al., 2011; Morgan, 2002).

I decided to record the conversations instead of taking notes because I did not want to hinder the participants by my writing but I wanted a method that permitted further reflections. After transcribing the conversations in Maltese and translating them to English, I sent both versions to the participants, asking them to read them and to indicate any changes they wished to effect. There were no changes asked by the participants but upon hearing the conversations myself, there were two instances for which I asked the concerned participants for further clarifications. The final versions were all sent to the participants for "respondent validation" (Cohen et al., 2011, p. 134). Agreement on time and recordings was reached before holding the

conversations. These were conducted in Maltese. This decision facilitated participation and made the situation more informal.

FCs are again discussed with regards to ethics and trustworthiness in Sections 4.0 and 4.11 respectively. In the section on the analysis of the data, I explain how the data gathered through this research tool was analysed and triangulated against others sets of data collected through the other research methods (Section 4.13).

4.8.3 The observations.

Being defined by Adler and Adler (1994) as “the fundamental base of all research methods” (p. 389) in social science, the observation has the exceptional characteristic of generating remarkable valid data because researchers can compile them “live” (Cohen et al., 2011, p. 456) as they emerge in the research milieu.

As explained earlier, two sets of observations were conducted in this research; in the first and third step of each case study. In total an average of sixty-four hours of observations was conducted across the four settings; an average of sixteen hours in the first step and an average of forty-eight hours in the third step. Before initiating the observations, an activity was held to explain to the children in simple words about the research and get their initial witnessed consent. Before every observation, the children were asked to give their verbal assent. Further details are provided in the ethical considerations section (Section 4.10).

The first set consisted of two observations, each two hours long in each setting which served to get an informed picture of how thinking skills were being cultivated in the setting. They were conducted in order to address the first research question. Besides this purpose, these observations also helped me to continue to develop more familiarity with the children and to

gain more of their trust as I noticed that all the children started to approach me to get me involved in their activities and to interact with me.

For each case study, after the completion of the first step, the raw data collected during these observations were then triangulated against the data gathered from the first FC with the educators and the data of the first interview with the Headteacher.

In the third step of each case study, the observations were conducted every day for the whole duration of the projects to evaluate the intervention. Table 4.2 in Section 4.7 indicated the time spent in observations in each setting. The purpose was to determine how the intervention enabled the children to cultivate their thinking skills in order to address the second research question. The rapport built with the children during the first set of observations facilitated my entrance and acceptance in the settings during the second set of observations as the children started to consider me as one of them. They interacted with me more freely and involved me in their activities. It was a pleasure to be greeted warmly upon entrance in the settings.

Following the three types specified by Angrosino (2005), the “participant observation” (p. 732) type was used during all observations. When compared to the “reactive” (p. 732) and the “unobtrusive” (p. 732) types, the participant type fitted seamlessly in this research because it is based on the premise that there is a substantial connection between the researcher and the researched group and necessitates the prolonged engagement of the researcher in the normal life of that group. Thus, referring to the membership roles identified by Alder and Adler (1987), I could define mine as an “active membership role” (p. 35) because I participated in the core activities, adopting both a functional and an observational role, which enabled me to gain more trust from the educators. In addition, this role allowed me to find the time to occasionally

withdraw from the activities and find a strategic place from where to observe what was happening in the settings.

Bearing in mind that I was going to spend several hours of observation in the settings and the role that I was going to adopt, I worked on developing a protocol that would facilitate the process of taking fieldnotes. Every observational research has to include a description of the details of the research setting and specific and detailed notes on the area of inquiry (Angrosino, 2005). Thus, the designed protocol had two sections; the first for the general details and the second for thinking skills (Appendix G). In the first section, which was based on the suggestions in Creswell (2014), I took fieldnotes about the organisation of the environment, the number of educators and children present on the day, the available resources for the activity, the main activity and tasks, important unexpected events, the development of activities and the teaching objectives.

The second section focused explicitly on thinking skills and was based on three main categories of sources of literature which are all discussed in the Literature Review chapter. The first category comprised the literature on thinking in young children, mainly Robson (2012), Robson and Hargreaves (2005), Taggart et al. (2005); Fisher (1999) and McGuinness (1999). The national policies, the NCF (MEDE, 2012) and LOF (DQSE, 2015), served as the second category. The third category consisted of international curricula and frameworks. These were the English EYFS (DfE, 2017) and EYFSP (STA, 2018), the Welsh *Foundation Phase Framework* (Welsh Government, 2015), Northern Ireland's curriculum for the foundation stage (Council for the Curriculum Examination and Assessment, 2018), the Finnish *National Core Curriculum for Pre-primary Education 2010* (Finnish National Agency for Education, 2017), the Australian EYLF (AGDoE, 2009) and New Zealand's Te Whāriki (MoE, 2017). I decided upon

selecting these particular documents because these are the ones to which reference is made in the NCF (MEDE, 2012) and LOF (DQSE, 2015).

While reviewing the literature to develop this protocol, I encountered several psychometric tests for assessing different kinds of thinking. However, these were not appropriate to be used in this research because they were devised to be implemented with people beyond the foundation stage and based on quantitative approaches. Two examples of these are the quantitative tests entitled ‘Assessment of Pupils’ Thinking Skills’ and ‘Individual Thinking Skills Assessments’ in Burke and Williams (2012), which are devised to be conducted with ten to twelve-year-old children.

Consequently, these tests would not have yielded the kind of detail I sought in this research because I was not interested in quantifying the instances in which a particular thinking skill or disposition was applied by the children. I was after describing how that thinking skill was developed as part of the children’s learning process, as explained in all the foreign curricula. My decision to rule out any use of psychometric tests was further reinforced by the fact that the literature on ECEC suggests that observation is the most appropriate way to assess young children (Nutbrown and Clough, 2014).

In view of the above research and decisions, the second section of the protocol was divided into the five categories of thinking skills, each containing its related skills or dispositions. For the skills in each of the categories, I kept the same terms used in the NCF (MEDE, 2012) and the LOF (DQSE, 2015) to make the protocol as context-specific as possible. Since the protocol was to be used as a common tool for all observations, I listed down all the terms related to each area as mentioned in both national documents even though I knew that I would not have observed them all in every fieldwork session. The ‘Description’ column was

added beside the skills and dispositions to provide detail on how the children were fostering them throughout their learning.

The role I assumed in the settings permitted me to take concise fieldnotes only. These were then elaborated soon after I left the settings in order to include any details omitted during the observation itself. I also listed down the reflections on any events, issues and difficulties that emerged during the observations in preparation for the formal write-ups of the fieldnotes (Miles et al., 2014; Cohen et al., 2011). In consideration of the fact that I assumed an “active membership role” (Alder & Adler, 1987, p. 35), I was aware that it would have been impossible to physically observe all the actions in the settings. This was also confirmed by the piloting exercise of the observation and its protocol that I conducted in Rebbiegħa Setting since this was the setting in which all consents were gained first. Thus, to minimise various observer biases, precisely “selective attention” (Cohen et al., 2011, p. 473), “attention deficit” (Cohen et al., 2011, p. 473) and “selective memory” (Cohen et al., 2011, p. 473), all the observations were recorded and photographs were taken during the activities. The audio-visual media were not used as research tools but as aide-mémoires that I visited on several occasions to reflect and capture other actions that I overlooked in the field. Some of the photos were included in this thesis after being vetted beforehand by the practitioners.

Observational details were discussed and agreed upon with the staff before starting the observations in order to minimise any apprehensions and reactivity and to facilitate consent. These included my role, the purpose, the protocol, the frequency, the duration and the purpose of the audio-visual material (Mason, 2002). The parents were also given ample information about the observations on their consent form. Before starting each case study, I asked the children to give me their witnessed consent for the whole case study (Nutbrown, 2011a). Moreover, the children were asked for their verbal assent before every observation. Further explanations on the

staff members’ and parents’ consent as well as on the children’s assent and witnessed consent are provided in the next section on ethical considerations (Section 4.10).

Table 4.3 illustrates an excerpt from the data table that I kept on the observations. Further examples are included in Appendix H.

<u>Obs. No.</u>	<u>Date</u>	<u>Time</u>	<u>Setting</u>	<u>Observed Activity/ies</u>	<u>Type of Observation</u>	<u>Location</u>	<u>Reason for observing this activity</u>	<u>Children</u>
22(HS-7)	2/5/2018	8:30 – 9:54	HS	Observing things made out of wood	Whole class	Setting	To listen to their dialogues	As a whole group
				Creating using things made from trees	In groups	Setting	To observe their creativity	In groups
				Discovery of shade by Georgina	In groups	Setting	Unexpected – observed exploration	In groups

Table 4.3: Excerpt from the data table illustrating details about the observations

4.9 Positioning the intervention within the discourse of educational change

In view of the description of the intervention presented in the previous sections, it is appropriate to locate it within the discourse of educational change. This involves the consideration of its two main aspects; the change itself and the change process (Fullan, 2007). While recognising that these two aspects are interdependent, Fullan (2007) argues that it would be useful to concentrate on each of them separately. In consideration of this recommendation, the section starts by presenting the theory of change (TOC) that was developed to support the intervention. Subsequently, it discusses the Transtheoretical model of change (TTM) (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992), which was used to inform my understanding of the process of change in the KGEs.

In simple terms, a TOC can be defined as the why and how of an initiative (Weiss, 1995). It constitutes the framework that determines the success of intervention as it progressively

identifies indicators to assess its progress (Schindler, Fisher & Shonkoff, 2017). A TOC initiates from the long-term outcome goal and through backward mapping, illustrates the why and how of all the precursor outcomes that need to be fulfilled in order to reach the ultimate aim (Stein & Valters, 2012). Thus, it differs from other planning strategies such as logic models because it focuses on the preconditions that must be present to reach the long-term outcome, explaining why the pathway of change is likely to succeed rather than on describing the list of activities that can lead to the long-term outcome (Clark & Anderson, 2004).

As indicated earlier, the diagrammatical formation of a TOC sets off from the identification of the long-term goal (Taplin & Rasic, 2012). Utilizing backward mapping, the row below illustrates the direct preconditions for the attainment of the long-term goal (Taplin & Clark, 2012). For each precondition, its preconditions or outcomes are identified and the process continues along these lines until the initial short-term outcome is determined. These are illustrated in vertical sequences, forming upward pathways from the initial layer to the final one (Taplin & Rasic, 2012). While building pathways, it is important to reflect on the necessary conditions that need to be present for each outcome to be achieved, on the barriers that can hinder the achievement of each outcome and on the underlying assumptions that are necessary for the long-term outcome to be fulfilled (Taplin & Rasic, 2012). It is only at this stage that the activities to achieve the outcomes are defined (Taplin & Rasic, 2012). The following stage in the process entails the identification of indicators that would serve as signposts to assess progress along with the application of the TOC (Taplin & Rasic, 2012). The process also requires the development of a quality review to assess the theory for plausibility, feasibility and testability (Taplin & Clark, 2012). The final stage consists of writing a narrative to summarise the developed theory (Taplin & Clark, 2012). Guided by the stages in Taplin and Clark (2012), a

TOC was developed for this research. It is illustrated in Figure 4.6 and its narrative follows subsequently.

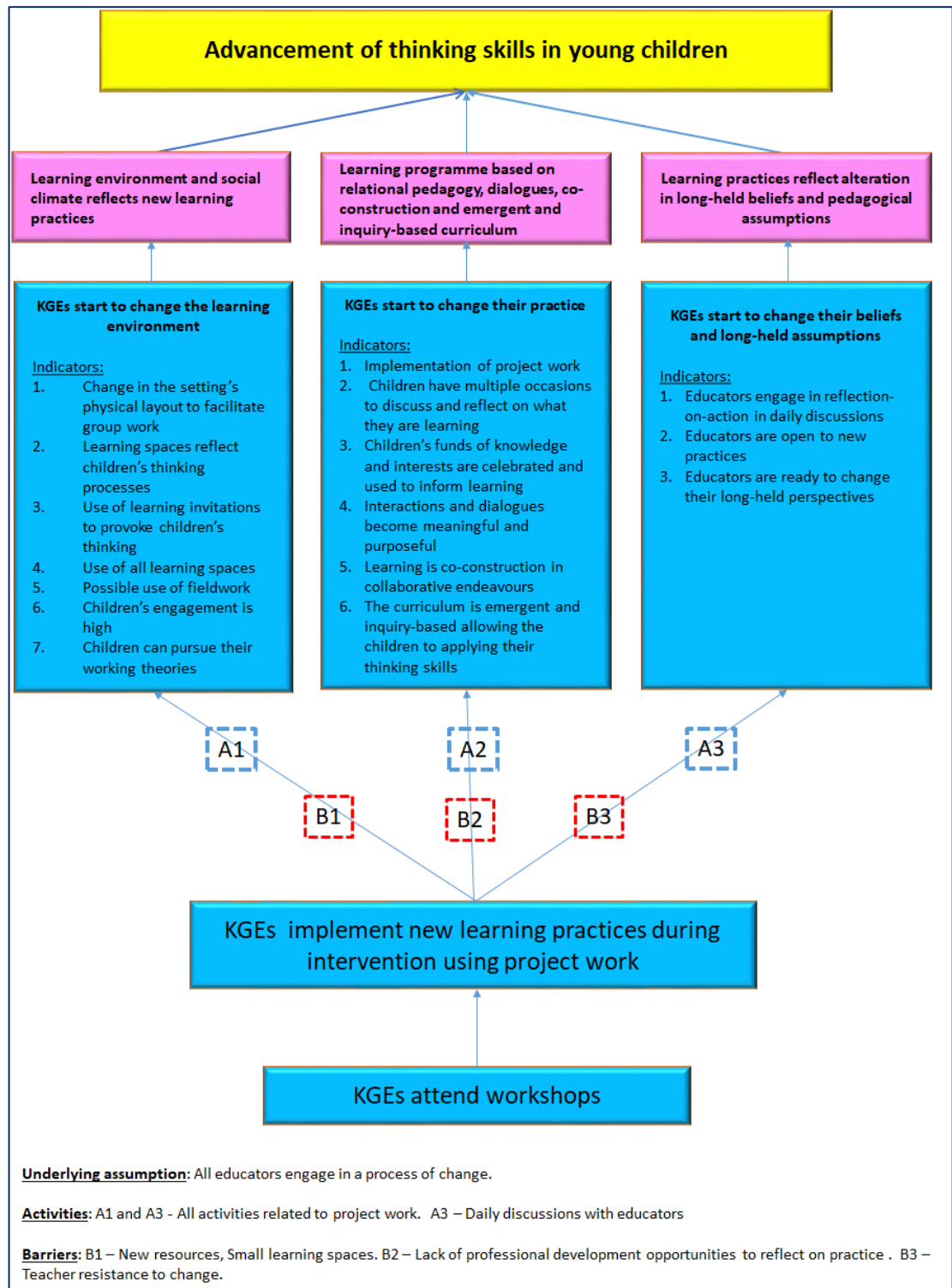


Figure 4.6: TOC designed to support the intervention

Narrative: The TOC was created in relation to the intervention to plan how the latter was going to lead to the ultimate aim of this research, that is, the advancement of the thinking skills in young children (highlighted in yellow). Due to my positionality, the literature on educational change related to school leadership informed my understandings and guided me in the construction of the TOC (Fullan, 2007; Hargreaves, 2005; Hargreaves, Leiberman, Fullan & Hopkins, 2010).

Fullan (2007) asserts that change has to possibly take place in three interrelated dimensions when implementing a new programme: in the use of new material, in the application of new teaching approaches and the modification of beliefs. Thus, in the TOC, these three dimensions were considered the higher outcomes beneath the long-term goal (highlighted in purple). The outcomes highlighted in blue were the minor preconditions assumed to be achieved by the intervention. The indicators for each of these preconditions were included within the same box to provide a more detailed and comprehensive illustration of the TOC. The barriers were coded along the pathways and listed beneath the TOC. The fact that all the educators were willing to take part in the research, their engagement with the process of change was considered as the underlying assumption of the TOC. The quality of the TOC was ensured by following the guidelines in Taplin & Clark (2012) regarding plausibility, feasibility and testability. For plausibility, it was ascertained that the outcomes followed a logical sequence and indicated all the components that are necessary for a TOC to be applied. For feasibility, the TOC was kept simple and realistic given that this formed part of this research. In addition, the indicators were clearly defined to ascertain testability.

People experience change in different ways and they could perceive and experience the same changing event in a different manner (Sikes, 1992). Several factors are calibrating the lens through which each educator experience change. Thus, throughout the process of

implementation of the TOC, it was important to focus on how the changes were being experienced by each individual educator. As maintained by Peterson and Baker (2011), since educators in ECEC are already burdened by several challenges such as low pay and imposed outcomes, it is crucial that each educator is followed closely throughout all the stages of the process. Thus, I searched for a model that could guide me in understanding the complexities associated with individual change. Moreover, in line with my sociocultural epistemological position, I sought a model which could allow for reflective practice (Dewey, 1933).

Accordingly, the TTM was selected (Prochaska & DiClemente, 1983; Prochaska et al., 1992) for four specific reasons. First, even though it was originally devised to guide behavioural changes in the health sector, it has also been applied to other areas including ECEC in order to understand readiness to change in educators (Lubecki, 2014; Peterson, 2012a; Peterson, 2012b; Peterson & Baker, 2011). Secondly, it does not impose commitment to change but focuses on support by reinforcing the individual's stimulus to embark on the changing process through reflection on experience and discussion (Peterson & Baker, 2011). Thirdly, it can be tailor-made to each individual, respecting his or her particular point of the departure (Peterson, 2012a). Finally, it allows for an iterative process between the stages respecting the individual's internal struggles that may emerge while experiencing change (Lubecki, 2014).

The TTM offers six stages that people usually go through during change (Prochaska et al., 1992; Burke, Guck, Robinson, Powell & Fichtner, 2006). These are pre-contemplation (Stage 1), contemplation (Stage 2), preparation (Stage 3), action (Stage 4), maintenance (Stage 5) and termination (Stage 6). Table 4.4 presents the stages based on the descriptions in Burke et al. (2006) and Peterson and Baker (2011).

<u>Stages</u>	<u>Description</u>
1. pre-contemplation	Individuals have no plan to change due to denial or unawareness of the impact of the problematic issue.
2. contemplation	Individuals start to recognise the problematic issue but feel overpowered by impediments.
3. preparation	Individuals are ready to change and start to strategize a plan of action to change their behaviour and environment to address the problematic issue.
4. action	Individuals start to implement the plan of action and to notice the first changes in their behaviour and environment.
5. maintenance	Individuals persist in continuing with the changes with support.
6. termination	Individuals resolve their problematic issue completely. This stage did not form part of the original model and is often left out in the implementation of the TTM.

Table 4.4: The six stages of change in the Transtheoretical model of change

Moreover, the TTM proposes ten processes that people normally experience throughout the stages. These processes can be divided into two: experiential processes, which aim at providing support for change and behavioural processes which indicate subsequent changes in behaviour (Lubecki, 2014). Table 4.5 provides a brief explanation of each of these processes grounded on Peterson (2012b) since the researcher locates them within the field of ECEC. In addition, the table also positions the processes along the stages of change according to Peterson (2012b) and Prochaska & Velicer (1997).

<u>Processes</u>	<u>Explanation</u>	<u>Corresponding Stage</u>
<u>Experiential Processes</u>		
1. Consciousness raising	Educators reflect on the strengths and weaknesses of their practices and may observe the practices of others	1 - 2
2. Dramatic relief	Educators may manifest emotions due to frustration when they think about their practice	1 - 2
3. Self-reevaluation	Educators become aware of inconsistencies between their principles and their practices	1 - 2
4. Environmental reevaluation	Educators engage in reflective practice to discuss the bearing of their practice on children's development	1 - 2
5. Social liberation	Educators become aware of the support that can enable them to embrace change	1 - 4
<u>Behavioural Processes</u>		
6. Self-liberation	Educators decide to change and set goals or make plans	3
7. Stimulus control	Educators change aspects of their environment or introduce reminders to support new practices	4
8. Counter Conditioning	Educators discuss with colleagues to prevent reverting to old practices in moments of difficulty	4 – 5
9. Reinforcement management	Educators receive a positive response which encourages them to continue with their new practices	4 – 5
10. Helping relationships	Educators seek interpersonal support to maintain the changes in practice	4 – 5

Table 4.5: The ten processes indicated in the TTM and their position along the stages of change

The actual implementation of the TOC and the different ways in which I worked with each KGE throughout its process will be discussed in view of the findings in Chapter 6 in Section 6.6.

4.10 Ethical considerations

4.10.1 Ethical approval and permissions.

Soon after passing my Confirmation Review Viva, I sought the approval from the Ethics Review Panel at the School of Education in the University of Sheffield (Appendix A) and subsequently from The Secretariat for Catholic Education (Appendix B). On attainment of the necessary permissions, I met with the Headteacher to gain her permission to conduct the case studies in the schools and to explain all the study details. Her approval was granted and she also signed the consent form. The explanatory letter and the Participant Consent Form for the Headteacher are attached as Appendix I. Another meeting was subsequently held with her to explain the purpose of the interviews and to schedule them, to agree on the use of the digital voice recorder and to clarify any concerns. I also explained how I planned to coincide my visits to the kindergarten schools with my work at the primary school.

4.10.2 Approaching participants and gaining consent.

After gaining the permission from the Headteacher, an informal meeting was held in each setting with its respective practitioners to explain the general aspects of the research and what it entailed, their consent form, the FC and the observations. Due to positionality issues previously discussed, I thoroughly clarified that the exclusive purpose of the research was to cultivate and advance children's thinking skills and that it did not carry any ulterior motives. It was rigorously emphasised that my research was in no way linked to performance assessment.

An agreement was reached on the use of the audio-visual material. With regards to the digital voice recorder, I explained its function in the FCs and how the recordings were to

facilitate the transcriptions and the succeeding writing of the report. It was explained that both the Maltese and English transcriptions were going to be given back to them for their verification before being used for the analysis. I also asked for their permission to take some photographs during the activities and to include some of them in the thesis. I assured them that their anonymity was going to be safeguarded and that any selected photographs were going to be verified by them before being inserted. In addition, I explained that the video recordings were going to serve only as my aide-mémoires in order to notice further actions that were unobserved during fieldwork.

Although the educators were all ready to give their consent during this meeting, another similar meeting was scheduled for the following week to allow ample time for the reading of the letter and consent form. It was very important that I would not rush them into giving me their consent and allow them ample time to think because, as discussed earlier, this was insider research conducted by someone in a position of power within the school, in this case by me who at that time had the role of Deputy Headteacher. To ascertain that I was not in any way constraining or obliging them to take part, I ensured that I did not contact them or the school between the two meetings. Thus, I would minimise the risk of having these educators feeling in any way coerced into taking part (Atkins & Wallace, 2012). I have to admit that between the two meetings I was quite tense and I noted it down on my reflective journal, but I felt that this was the ethical way to go (Section 4.12). During the second meetings, I clarified their questions, which were more about logistic matters such as the date when the study was going to start and how to collect the consent forms from the parents rather than about their own consent. Thus, they all gave me their consent and were eager about the study. The explanatory letter and the Participant Consent Form for Practitioners are attached as Appendix J.

An explanatory letter and consent form were given to the parents of the children in the four settings. They were in Maltese to facilitate understanding since this was the mother tongue of all the parents of the children. The KGEs offered to give the parents the consent forms themselves during arrival and dismissal since they met all the parents at those times. They told me that it was better to distribute the consent form in this way rather than sending the papers home because they could briefly explain the study to the parents. It took about a month to collect all the signed consent forms from the parents and send back the copies. The main reason was that some children were not attending the settings when the letter and consent forms were given out because they were sick. Thus, their consent forms were given to their parents at a later date than the rest of the children. Additionally, I also called a small number of parents to clarify that they were actually giving their consent when the forms were returned incomplete or marked in an unclear way. The Maltese and English versions of the explanatory letter and the Participant Consent Form for Parents are attached as Appendix K.

The explanatory letters of the Headteacher and the practitioners were based on the templates provided by the University. However, the parents' information letter was in the language and tone that were usually used in school letters because I was confident that the parents were going to understand and engage with the content more than if I have used the template.

The letters invited the participants to take part, provided information about my background, the purpose of the research and duration of the fieldwork. In addition, information about the selection process, the participation and the research tools was given. The participants were informed that participation was entirely voluntary and that refusal to agree to participate was not going to involve any penalty and that they could also choose to discontinue their participation at any time without once again any penalty. Moreover, information was provided

about any possible disadvantages and risks of participation, possible benefits of participation, what would have happened if the study was unexpectedly interrupted, whom to contact in case of complaints about the research, confidentiality issues, the outcomes of the study, the sponsorship, the approvals that were sought prior to implementation and contact details of my supervisor at the time of application and myself.

I informed the parents in their consent forms that I intended to take photographs and videos during the activities and that some of the photos were going to be used in the final report. I gained the consent to portray the faces of the children, although I changed my mind about this, as I shall discuss in the next section (4.10.3). The parents were assured that the photographs chosen for the report, were to be verified by the KGEs before being included and that witnessed consent and ongoing verbal assent were going to be obtained from the children before any photographs or videos were taken.

The Headteacher, practitioners and parents were assured that as the researcher, I was going to follow the ensuing principles with regards to the collected raw data. First, it was going to be kept strictly confidential, stored in a secure location and accessible only by me. Second, it was only going to be used for analysis, for illustration in conference presentations, published papers and lectures should the occasion arise. Third, no further use was ever going to be made of it without their written permission. Finally, it was going to be stored for five years from the completion of the research after which it would be destroyed. The above principles were and are still being respected.

The children were three and four-year-olds and as in all research involving young children, I had to think primarily of their well-being because they were the vulnerable and the powerless (Groundwater-Smith, 2011). Thus, the first step was that of approaching the children

and enabling them to feel comfortable in my presence (Atherton & Nutbrown, 2016). Although I frequently visited these settings as part of my work, I still felt that I had to work on developing more familiarity with the children so that during the observations, they would feel at ease when I was around and behave as they normally did. Thus, during the first term of the scholastic year, I spent more time in the settings than usual to get to know the children better especially the younger ones in the KG1 settings who had just joined the schools.

Once parental consent was obtained, the children were asked to give their initial witnessed consent in front of their practitioners. To ascertain ethical practice in every stage of the study, the practitioners were asked to help in this process since they were the “guardians” (Nutbrown, 2011a, p. 10) of the children. Mac Naughton and Hughes (2009) suggest four steps to acquire assent from the children: making the children aware of the research project; giving the children ample time to think about the invitation; ensuring that the children understand that they can refuse and that a negative reply would be accepted and asking the children to reaffirm their assent before every observation, photograph and recording.

Following these guidelines, an activity was organised in every setting before starting the first set of observations. A slide presentation was prepared to support my explanation, in which simple words and pictures were used to facilitate the children’s understanding. I followed the advice in Mishna, Antle and Regehr (2004) and used illustrations taken from the practical guides about the Project Approach by Chard (2014) (Appendix L). The first group of slides gave some information about me so that the children got to know me better. The second set of slides showed some examples of the activities that they were going to do during their projects. The final group of slides served to explain the use of photographs and video recordings. It was made clear that they could refuse to be photographed and recorded, that they were not forced to take part and that they were going to be asked for their permission and reminded before every session,

photograph and recording. At the end of these sessions, the children were given papers to trace and colour their hands and draw their faces if they agreed to participate. Some of them also wrote their names. These activities took place when all the children were present in order to facilitate the process. All the children gave their initial witnessed consent. Figure 4.7 illustrates some of the children's witnessed consent from each setting. These photographs are not close-up shots in order to respect the anonymity of the children and hide any names included on them.



Figure 4.7: Examples of children's witnessed consent from the four settings

In addition, I made it a point to ask for the children's ongoing assent to be sensitive to their wishes, which they sometimes expressed verbally or through body language. I asked for their permission before every observation, photograph and recording in order to respect their right to participate in decisions affecting them (Carter & Nutbrown, 2016). Gaining assent from the children is considered as good practice in early childhood research since it is in line with the UNCRC (United Nations, 1989). Assent empowers the child to refuse to participate or to dissent, even if parental consent has already been obtained (Coady, 2001; Phelan & Kinsella, 2013).

Nutbrown (2011a) encourages researchers to ascertain that their studies will never create any distress to young participants, not even as adults. To that end, as in Carter and Nutbrown (2016), when some of the children were engaged in other activities, they were not forced to participate but were encouraged to do so later or during the subsequent session. Thus, the children's willingness to take part in the activities was further ensured.

4.10.3 Anonymity.

To further safeguard confidentiality, I did not include any personal identifiers or unnecessary details about the geographical position of the schools and the participants while writing this thesis. The names of the settings and participants were fictionalised to protect anonymity (Busher & James, 2007). Earlier in this chapter, Table 4.1 was included to indicate the qualifications and years of experience of each KGE. Although this table was intended to serve for later reference when debating the findings connected to the changes in the perspectives of the KGEs, it is important to acknowledge that its details may shed any light on the identity of the KGEs. Consequently, the Headteacher and the practitioners were informed that from the final report, there could be the possibility that they could be recognised by some people who are familiar with these Kindergarten schools. This was not a concern for them but I still felt the need to clarify this issue with them.

With regards to the children, my initial intention was to show their facial expressions in order to capture and demonstrate “nonverbal behaviour and communication patterns such as facial expressions, gestures, and emotions” (Marshall & Rossman, 2016, p. 186) as they appeared in specific situations and thus achieve more authentic data and a more detailed report. However, as the projects progressed and as I reflected on the matter in my reflective journal, I felt that I had to move away from my original decision and safeguard the children more for three reasons. First of all, this was insider research and given the Maltese context, the schools can be

easily identified. Secondly, the children were wearing uniforms in the photos and these were again hindering anonymity. Thirdly, I continued to reflect on the argument raised in Nutbrown (2011a) that studies should never cause uneasiness in children, not even as adults. Thus, I could never be certain that as adults, the children will still approve that their faces were shown in my thesis. Thus, I thought it was more ethical to hide all the faces of the children in the photos and use descriptions to depict the situations.

4.11 Trustworthiness

As claimed by Atkins and Wallace (2012), it is the “moral responsibility” (p. 4) of every researcher to ascertain that the inquiry process is rigorous. Such endeavour necessitates the application of evaluative criteria that are appropriate for the research. The traditional yardsticks of internal and external validity, reliability and objectivity are more suitable for research that falls within the positivist paradigm and which yields quantitative data (Cohen et al., 2011). Since qualitative research generates rich contextualised data and acknowledges the inevitable influence of the value systems of the researcher, the above criteria cannot be implemented because they simply do not fit (Lincoln & Guba, 1985). Alternative principles that respect the nature of qualitative research are applied to judge its worth and the literature offers various sets of criteria (Cohen & Crabtree, 2008; Denzin & Lincoln, 2005). Still, not all sets are suitable because the researcher has to abide by those that emerge from the research tradition or approach that is adopted in the research itself (Cohen & Crabtree, 2008). For this reason, the constructs of credibility, transferability, dependability and confirmability advocated by Lincoln and Guba (1985) were applied in this research since they are considered to be suitable to determine the trustworthiness in interpretative case study research and insider research (Atkins & Wallace, 2012; Bassegy, 1999; Creswell, 1998; Denzin & Lincoln, 2005; Houghton, Casey, Shaw & Murphy, 2013).

4.11.1 Credibility.

In naturalistic inquiries, credibility is the equivalent of the conservative internal validity criterion in positivist research (Lincoln & Guba, 2013). Given the nature of this study; which is subjective and contextual, internal validity was not appropriate because it was impossible to control all other external factors (Drew et al., 2008). Thus, credibility was used since it “refers to establishing confidence in the findings and interpretations of a research study” (Lincoln & Guba, 2013, p. 104). Lincoln and Guba (1985) propose five key procedures to enhance the credibility of the study and these are subsequently discussed with regards to this research.

The initial procedure involves three activities that facilitate the generation of more credible findings and their analyses. The first one is “prolonged engagement” (Lincoln & Guba, 1985, p. 301) that serve researchers to understand the context of the field, to identify any distortions in the information given by participants, to become aware of their prejudices and to earn the trust of the participants. As explained in the previous section, although this is insider research and I visited these schools regularly due to my work, I spent more time than I normally did in the settings before starting the case studies. The children and the practitioners became accustomed to my presence in the settings during activities far before the actual implementation of the fieldwork and as a result, this helped to reduce “Hawthorne and halo effects” (Cohen et al., 2011, p. 118) and to build trust. Additionally, the extensive time spent in observations helped me to become aware and address my biases and preconceived ideas.

The second activity is “persistent observation” (Lincoln & Guba, 1985, p. 304), which is relatively related to extended participation in the field discussed above. Researchers immerse themselves in the field to comprehensively understand the depth of the phenomenon being studied. My extensive presence in the settings enabled me to focus on thinking as my main unit of analysis and on the salient factors related to it.

Although the above two activities are advantageous for researchers, they may also hinder them from looking at the context through a professional lens (Lincoln & Guba, 1985). Spending several hours on the field may lead researchers to consider certain contextual issues as acceptable and draw conclusions quite swiftly (Lincoln & Guba, 1985). In order to minimise these pitfalls, I decided to undertake the first set of observations, which were appositely conducted to make the familiar strange (McCulloch, 2004). Moreover, I conducted an extensive amount of hours of observations in all the settings for the whole duration of the intervention to ascertain myself before drawing any conclusions.

The third activity is triangulation, recognised by Denzin and Lincoln (2005) as the process "...which reflects an attempt to secure an in-depth understanding of the phenomenon in question" (p. 5). Triangulation is widely used in case study research as it helps to compare the data generated by different methods (Houghton et al., 2013; Yin, 2009). From the four types of triangulation in Denzin (1989), "methodological triangulation" (p. 310) was implemented after the first step of each case study to compare the views of the Headteacher gathered by the interview, the views of the educators collected through the FCs and the fieldnotes produced by the observations. This served to reduce the possibility of "confirmation bias" (Cohen et al., 2011, p. 185) and of the "problem of inference" (Cohen et al., 2011, p. 473) that may appear if only one research method is used and the data is not triangulated. Additionally, the process helped to "identify different realities" (Stake, 2005, p. 454), resulting in a comprehensive picture of the studied phenomenon. Although, as asserted by Silverman (2013) and Wellington (2015), researchers can never claim to represent a complete picture of the studied phenomenon, triangulation helps to illustrate a reasonable scenario. This helped to produce a detailed and rich report.

Lincoln and Guba (1985) proposes “peer debriefing” (p. 308) as the second procedure through which naturalistic research can be made more credible. It is an activity held between fellow researchers who take on the role of the “devil’s advocate” (Bassey, 1999, p. 76) and examine the decisions taken throughout the research course. This feedback enables researchers to acknowledge any biases and shortcomings that might have escaped their attention (Shenton, 2004). Rather than focusing on providing alternative interpretations and harsh criticism, peer researchers listen to each other’s interpretation of the data to verify if they concur on the codes of the data and the rationale behind the selection of those codes (Houghton et al., 2013). As part of our Maltese PhD programme, various peer debriefing sessions were held for us to code samples of each other’s raw data and to share our research processes. Additionally, I also attended informal gatherings with my doctoral colleagues to discuss the development of our research to support each other as critical friends. Such meetings have always helped me to clarify my insights, to make better decisions along the process and to ascertain myself of my selection of data codes.

The third procedure in establishing credibility is “negative case analysis” (Lincoln and Guba, 1985, p. 309) that is used to clarify the prominent hypothesis according to the new data that emerge throughout the research process. To fulfil this purpose, all scenarios were taken into consideration and used in my reflective process to assure myself of achieving a credible interpretation of the findings.

The fourth procedure is “referential adequacy” (Lincoln and Guba, 1985, p. 313) which consists of an activity that takes place after completing initial outcomes and interpretations. These are assessed against the raw data to ascertain their appropriateness. In this research, this activity was carried out throughout all the analysis process to assure myself that I have not deviated from the original raw data.

The final technique in ascertaining credibility is “member checking” (Lincoln & Guba, 1985, p. 314), which is the equivalent of “respondent validation” (Cohen et al., 2011, p. 134). Lincoln and Guba (1985) acknowledge this exercise as the most decisive in determining the credibility of the study and suggest that findings and interpretations are checked directly with the participants. However, other scholars are sceptic about the legitimacy of using such activity to validate interpretation. Mercer (2007) for instance, points out that participants can alter their views by time and demand changes, thus impinging upon the interpretation given by the researcher. Consequently, this exercise is increasingly being more considered as an opportunity for the researcher for further reflection and for the participants to add any additional information to the original data (Sandelowski, 2012). To address these issues, the transcripts and the translations of the interviews and the FCs were given to the participants for their verification before starting drawing any interpretation. They were all returned without any modifications.

4.11.2 Transferability.

In quantitative studies, researchers aim at achieving external validity. This measures the extent to which the results achieved through internal validity can be generalised (Cohen et al., 2011). Thus, given that in interpretative case studies, the researcher cannot control the factors that influence the study, and therefore, achieve internal validity, it follows that the findings cannot be generalised, that is, achieve external validity.

As a result, it was more suitable to use transferability for its appropriateness in qualitative studies. The term transferability in qualitative research replaces the external validity measure that is conventionally used in quantitative research (Lincoln and Guba, 2013). Of the four criteria used to assess trustworthiness in qualitative studies, transferability is the most difficult to fulfil due to the inherent nature of the research typology, particularly when the context is unusual and the number of participants is small (Lincoln & Guba, 1985; Shenton, 2004). Referring

specifically to case study research, Yin (2009) posits this criterion as “a major barrier” (p. 43). Consequently, the researcher is expected to provide rich and thick descriptions from the outset, enough to allow other researchers to judge whether the study can be replicated in other contexts (Houghton et al., 2013).

This research was conducted within four settings and thus some generalizations were possible because they all had a common context. However, it was implemented in two kindergarten Church schools whose context may differ from that of other Maltese kindergarten schools led by the state or a private organisation or from that of other kindergarten schools abroad. Thus, the “critique checklist” (Stake, 1995, p. 131) to produce a robust case study report was used as a guideline to ensure that the report included rich descriptions of the context, justifications for the selection and implementation of research tools and the effective use of verbatim quotes and citations from fieldnotes to illustrate how the themes emerged from the raw data.

4.11.3 Dependability.

In quantitative research, a study is considered to be reliable if it can demonstrate that similar findings can be yielded if it is repeated within similar contexts, with similar participants and similar data collection tools (Cohen et al., 2011). The same principles cannot be applied to qualitative research, which is characterised by contextual differences. Hence, dependability, which is the corresponding qualitative criterion of reliability was more appropriate to use. Given that the knowledge created in qualitative research is bound to the context and time in which it is generated, it is challenging for the qualitative researcher to achieve dependability (Denzin & Lincoln, 2005; Lincoln & Guba, 2013).

It is argued in Guba (1981) and reiterated in Lincoln and Guba (1985) that credibility and dependability coexist; therefore, if a study achieves credibility, it automatically attains dependability. However, these scholars also insist that dependability has to be addressed as a discrete criterion and use the example of the inquiry auditor to explain how the researcher has to provide a detailed account of the research process and the findings to allow other researchers to scrutinise all the details and possibly undertake similar studies, even if they are already aware that results may vary. To this end, Shenton (2004) recommends that the research report should thoroughly describe the research design and its implementation, the data collection process and the researcher's evaluation of the whole research process. Additionally, Creswell (2014) encourages researchers to include their reflections on every step of the research process and to ensure that definitions of codes remain fixed throughout all the process.

Accordingly, the advice in Shenton (2004) and Creswell (2014) was followed in this research. The research design and the data collection process were methodically described and justified earlier in this chapter and further rich and thick descriptions are provided in Chapters 5 to 7, which contain the findings and their interpretation. In the concluding chapter, I evaluate the research as a whole and discuss its limitations. With regards to the codes, I ensured that these were common for the raw data of all four case studies and whenever they were updated, this took place for all the cases.

4.11.4 Confirmability.

In qualitative research, confirmability is the equivalent criterion of objectivity in the positivist realm and it serves to ascertain that a study's outcomes and interpretations emerged from a rigorous research process (Lincoln & Guba, 2013). Thus, it enables other researchers to confirm that conclusions are not based on the biases and inclinations of the researcher; instead, they are substantiated by actual and authentic data (Lincoln & Guba, 1985). To accomplish

confirmability, I implemented three main strategies suggested in Shenton (2004), which are triangulation, an “audit trail” (p. 72) and a reflective journal.

The conventional criterion of objectivity was not appropriate because since this was an interpretative study, I can never claim that my preconceptions were completely ruled out. Such an assertion can never be entirely claimed by positivist researchers either because the actions of every human being are inevitably influenced by his own assumptions (Shenton, 2004).

In this research, the three main strategies were also used to fulfil the three previous criteria. As previously discussed triangulation helped to achieve credibility. However, it also contributed towards attaining confirmability because it helped to portray the multiple realities of the participants, thus reducing the impact of my biases on the research. Besides enhancing the dependability of the research, the audit records and the reflective journal also served to increase its confirmability. The records and the journal contained details of the decisions taken in every stage and the reasons behind these decisions for other researchers to determine the rigor of my study. I shall elaborate on the reflective journal and how it helped me to engage in a reflexive process in the next section.

4.12 Reflexive process

Being cognizant of the fact that all research is subjective and laden with the values of the researcher, I followed the advice in Cohen et al. (2011): “reflexivity suggests that researchers should acknowledge and disclose their own selves in the research seeking to understand their part in, or influence on, the research” (p. 225). Accordingly, I started this chapter by revealing my ontological and epistemological positions and after justifying my choice of research paradigm, I explained my positionality and how it determined the decisions I took during the research.

In addition, I kept a reflective journal which served two purposes. The first one was that of keeping notes on the decisions that I took during the research so as to examine them to ascertain myself that they were not influenced by my positionality. For instance, upon agreeing with the educators that we were to meet after a week in order to give them ample time to think about whether to give me their consent or not, I wrote:

... It is decided. I hope they won't change their minds!! However, I think, this is the most ethical way to go about it. Even if they said so, I want them to be more sure of their decision. Even for me because I would feel much better knowing that they are participating because they want to and not because I am who I am.

This excerpt from my journal reveals my reasons but also my fears. I think that by being honest with myself I became more “acutely aware” (Cohen et al., 2011, p. 225) of the decisions that I took in the research process.

The second purpose of the journal was that of venting my thoughts and emotions at the end of each day during data collection. As stipulated by Ortlipp (2008), the reflective journal enabled me as a researcher to unveil the emotions, thoughts and questions that I experienced. Being an insider, I could decipher the underlying reasons for the actions I was observing and the words of the educators and thus, I used the journal to voice my own thoughts and frustrations. The following extract is an example of one of those instances. It encapsulates the frustration I felt while observing the children during the Kite Activity in Sajf Setting during the first step of data collection, knowing that the KGE did not allow one of the children who wanted to mix two of the poster colours she gave them for the kite to avoid having a messy setting:

... The most annoying part of the activity was when Tommy asked Miss Philippa for a small container to mix the blue and the red together. He simply wanted to have the fourth colour because he said that since the kite had four parts, he wanted to use four different colours. Miss Philippa refused saying that they already had enough paint and she couldn't see the reason why he wanted to have a fourth colour. After staring at the teacher, Tommy, without saying anything, succumbed to the decision of his KGE and limited himself to the poster colours provided. In our conversation, later during the day, Miss Philippa revealed her real reason for refusing: avoid having a messy classroom because then the others would want to mix as well!! As if this mix was going to cause all this mess!! This is worrying indeed as these small decisions are hindering the children from pursuing their interests, from exploration, discovery, from predicting and addressing their working theories...

As part of my reflexive process, I also used the journal to reflect on the first interview conducted with the Headteacher. Being part of the school's administrative team, I felt that I had to examine her words methodically to give an interpretation as well as to gain insight on how I could learn from them in order to improve my own practice. Knowing that I would include some extracts from my reflective journal in this thesis, I was mindful of the ethical responsibility that I had towards the Headteacher. Consequently, in my journal, I decided to analyse her responses for my own professional self-appraisal. For instance, on this excerpt (Appendix M):

Me: Do you think that inquiry-based pedagogy can be applied in our KGs?

HoS: Yes, of course, it can. I think that they [the educators] already do but in a very very limited way ... [pause] some more than others. There is still a long way to go as I said earlier. It all depends on their initiative and on their keeping up to date with new ideas. I buy all the resources that they ask me to buy, I'm doing my part.

My reflection was ...

... once again, here the Headteacher emphasised the resources and the educator - mainly, the KGE. I feel that the role of the leader goes beyond buying resources for the staff. Therefore, as a curriculum leader, what am I doing?...and...How can I genuinely support the staff during the intervention and especially afterwards in order to succeed in enabling the children to use high quality thinking?

Thus, as argued in Fejes (2013) my reflective journal was my research companion. It captured all the significant moments of the research, in particular the process of change triggered by the intervention. As stated earlier, the interest of the educators to reflect on their own practices ignited during the workshops was sustained throughout all the intervention and was crucial in setting in motion the course towards activating the first steps towards a pedagogy of thinking. Given the significance of this process, I took note of all these changes in my journal, followed by my own reflections. Some of these anecdotes are included in reflexive boxes with the findings in Chapters 5, 6 and 7. Further details are provided in the section on the writing of the report at the end of this chapter.

In addition, reflexivity enabled me to change some of the decisions that I have taken before conducting the case studies, as I have described in the Section 4.10.3 on anonymity with regards to the photos portraying children's faces. It also enabled me to refine my skills during data collection. For instance, when I started with the observations of the intervention, I noticed that I was becoming better at taking fieldnotes; I was focussing more on my objective. However, it was most beneficial when I came to data collection. As I shall explain later on, reflexivity enabled me to analyse the data through hand-coding after having analysed it through NVivo because I gradually became aware that I needed to immerse myself deeper in the data.

4.13 Data Analysis

In qualitative research, data analysis demands considerable time and effort because it is “messy and complicated” (Wellington, 2015, p. 261) and requires an “iterative process of

making sense of the data” (Denscombe, 2014, p. 115). It is a meticulous exercise that has to do justice to the collected raw data and contribute to the production of a rigorous interpretation. In multiple case study research, data analysis is reasonably laborious and can be daunting given the large amount of data that is generated (Stake, 2005).

Data analysis is not to be considered as a distinct step that starts at the end of the data collection phase since the researcher may then feel overwhelmed with the amount of data and may even weaken the whole research (Merriam, 2009). Instead, it is advantageous for researchers to start the analysis process soon after they start collecting the first data as it is a formative exercise that enables them to refine their research process (Creswell, 2014; Miles et al., 2014; Wellington, 2015). For this reason, I transcribed the raw data soon after its collection and once it was validated by the respondents, I started to analyse it. My reflections on the raw data enabled me to narrow my focus by paying attention to particular details during subsequent observations and to improve on my techniques in posing the questions during the following FC.

In multiple case studies, the emphasis is on understanding how the studied phenomenon features across all cases, either to draw generalizable conclusions or, more importantly, to “deepen understanding and explanation” (Miles et al., 2014, p. 101) of the phenomenon itself. Ragin (2014) points out that a multiple case study can be approached in two ways. The “variable-oriented approach” (Ragin, 2014, p. 53) is used for studies with a large number of preselected cases, where the focus is more on theory and relevance of findings across comparable contexts. The second approach is the “case-oriented approach” (Ragin, 2014, p. 34) where the focus is on evidence that is more appropriate for multiple studies with not more than six individual cases where each case is regarded and studied individually. When the case-oriented approach is selected, cases are generally chosen as the research develops (della Porta, 2008). A rich description of each case is developed which is then used for comparative analysis

to evaluate complementary and divergent findings and develop broader and plausible interpretations (Ragin, 2014). In this case study, the cases were predetermined because it was insider research and they were also few in number. This scenario made it difficult to exclusively select between the variable-oriented approach or the case-oriented approach. In view of this, each write-up of raw data of each case study was generated and analysed individually. However, a cross-case report was generated instead of a separate report for each case. In the remaining part of this chapter, this is clarified further as I explain the procedures adopted for the four within-case analysis, the cross-case analysis process and the writing of the report.

4.13.1 Within-case analysis.

Since I had an extensive amount of data, I started to organise them as soon as they were collected in four separate folders on my workstation; one for each case study. Each folder contained two separate folders to store the data according to the research question they were intended to address. The first research question was: *'What practices currently exist to cultivate thinking skills in these learners?'* Thus, the first folder contained the data collected from the first interview with the Headteacher, the first FC with the educators and the initial two observations. The second research question was: *'How and in what ways has the intervention, which used the project approach to inquiry-based pedagogy advanced the thinking skills of these learners?'* Accordingly, the second folder held the data generated from the observations in chronological order, the second FC with the educators and the second interview with the Headteacher. With regards to the FCs and interview, the raw data were transcribed and validated by the participants as explained in Section 4.8 on research methods. Next, transcriptions were elaborated into proper write-ups in order to include particulars that I remembered while reviewing them and other personal notes and comments (Miles et al., 2014).

Each within-case analysis investigated two sets of data in order to answer the two research questions respectively. The first data set was analysed to refine my understanding of the existing practices that were being used to foster thinking skills. The second data set was analysed to critically evaluate how the intervention, which was intended to set in motion a pedagogy of thinking, has enabled the children to cultivate their thinking skills. Thus, the data analysis consisted of two phases, with the first phase starting immediately after Step 1 of each case study. This is due to the fact that the second data collection phase started at a later stage because it addressed a different research question and its analysis was finalised after Stage 3 of the research design. Figure 4.8 is an elaborated version of Figure 4.1 to indicate the two phases of the data analysis.

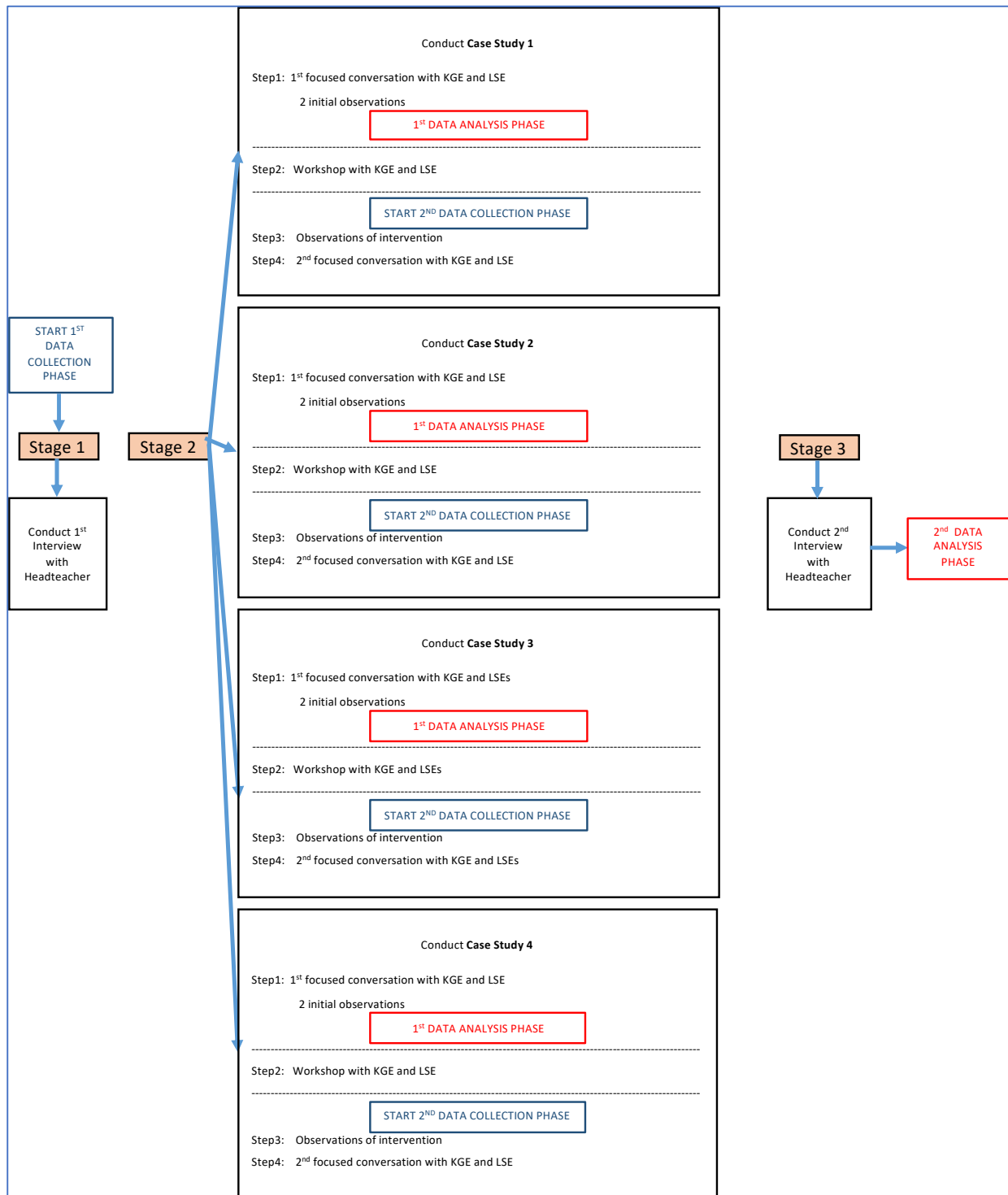


Figure 4.8: The two phases of data analysis

4.13.1.1 Familiarising myself with the data.

I initiated with the first set of data, which was intended to address the first research question. I started to engage with the data by going through them several times, highlighting keywords and adding notes. “Immersing” (Wellington, 2015, p. 261) myself in the data by reading, listening and watching the data numerous times enabled me to reflect and to start noting down my first impressions. Thus, the first “literal readings” (Mason, 2002, p. 149) of the data led me to carry out an “interpretative reading” (Mason, 2002, p. 149) of the data in order to understand both the explicit and the implicit messages that they were imparting (Figure 4.9).

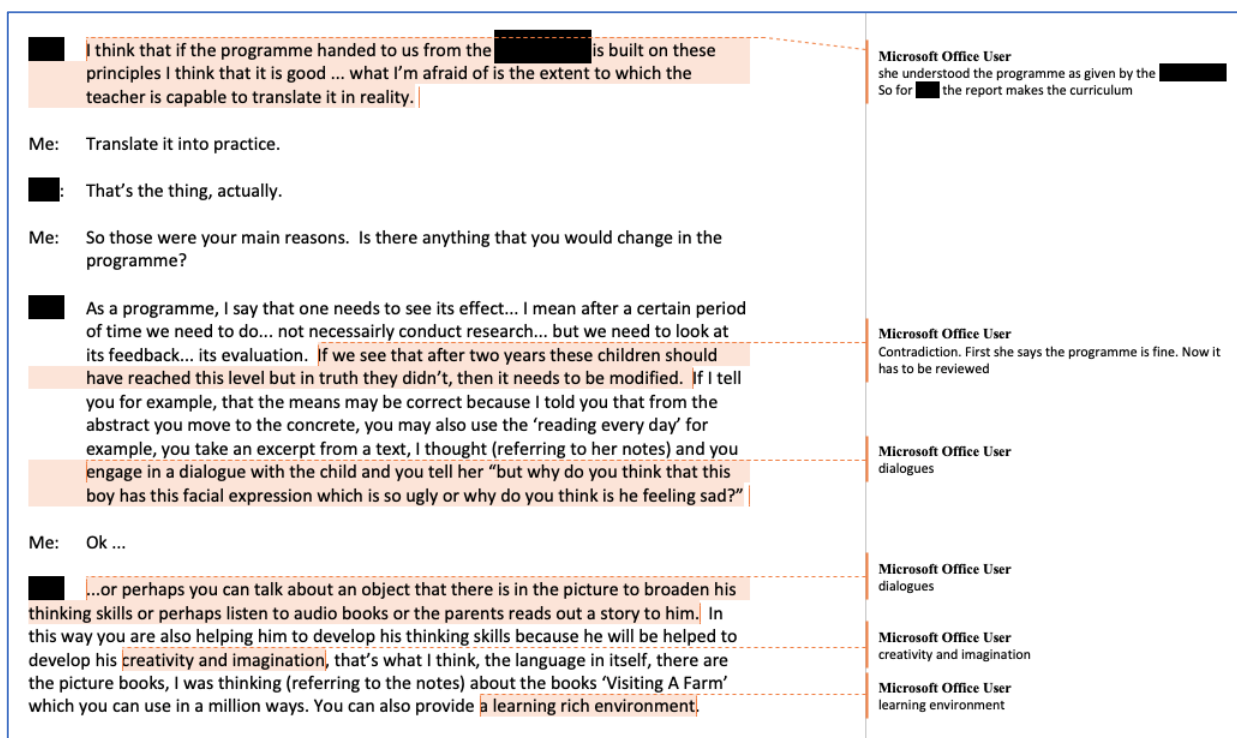


Figure 4.9: Example of first impression notes

4.13.1.2 Assigning codes.

As suggested by Miles et al. (2014), I started to condense the data by marking the sections relevant to the research. As the following step, I went through the data to make the first attempt at assigning codes. In qualitative research, a code is “most often 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, 2013, p. 3). Other terms, for instance, categorical indexing, cross-sectional indexing and categorizing are used in qualitative research literature to refer to the coding process (Creswell, 2014; Mason, 2002; Stake, 2005; Wellington, 2015; Yin, 2009). It is crucial that the coding system is rigorously developed in order to ensure that the same codes are used “systematically and consistently” (Mason, 2002, p. 151) throughout all the data.

As I was collecting the data, I became more aware that the four case studies were going to generate a huge volume of raw data. At this stage, I decided to assign codes using software because it offers the benefit of retrieving particular excerpts more efficiently later on, in particular during the cross-case analysis (Creswell, 2014; Wellington, 2015). To this end, I used the NVivo software that was available to be downloaded free from the University site and which I learnt how to use from the webinars and YouTube tutorials offered by QSR International.

Initiating from Case Study 1, I started to go through the raw data generated from the first interview with the Headteacher, the first FC with the educators and the two initial observations to assign codes. The theoretical framework and the literature fed into this process as initially a deductive approach was used to assign the codes (Miles et al., 2014). Eventually, other “a posteriori codes” (Wellington, 2015, p. 268) started to emerge from the data itself. An iterative approach was applied until the codes were refined to ensure that they represented the raw data. The set of codes of Case Study 1 was then used as a starting point to analyse and code the raw data of the remaining three cases. There were codes which were common among the four cases but there were others which belonged to only one case. For every case, this consisted of an iterative process to ensure that the codes represented the raw data.

The same process was implemented to condense the data gathered to address the second research question. The set of codes of Case Study 1 was again used to code the data of the other three cases. However, other codes were added when new topics surfaced. The list of codes generated by NVivo helped me to keep track of all the codes and their underlying meanings. As for the first phase of data analysis, there were codes which were common among all the four cases but some others were unique to a specific case.

4.13.1.3 Generating themes.

The following step was to generate the themes for each case. Commencing from the first case, the coded data was gathered in nodes to develop themes. Some content was coded under multiple nodes because it was related to more than one category. The nodes helped to start off the process of identifying possible themes (Figure 4.10). A theme is “an outcome of coding, categorization, or analytic reflection, not something that is, in itself, coded” (Saldaña, 2013, p. 14). Hence, during this process, I reviewed the nodes to ascertain myself of the themes that were developing by using hierarchy charts created by the software. Such exercise helped me to visualise the case as one whole as it was possible to check how the themes have developed. I returned to the raw data and codes whenever I felt that I had to review a theme and to ensure that the quotations that I have chosen were a true representation of the raw data. This resulted in an iterative process, which although very time-consuming, was crucial in refining the themes and ascertaining that they represented the raw data accurately. The same process was repeated for the other three cases. The themes of the first case were used as guidelines to generate themes for the other cases.

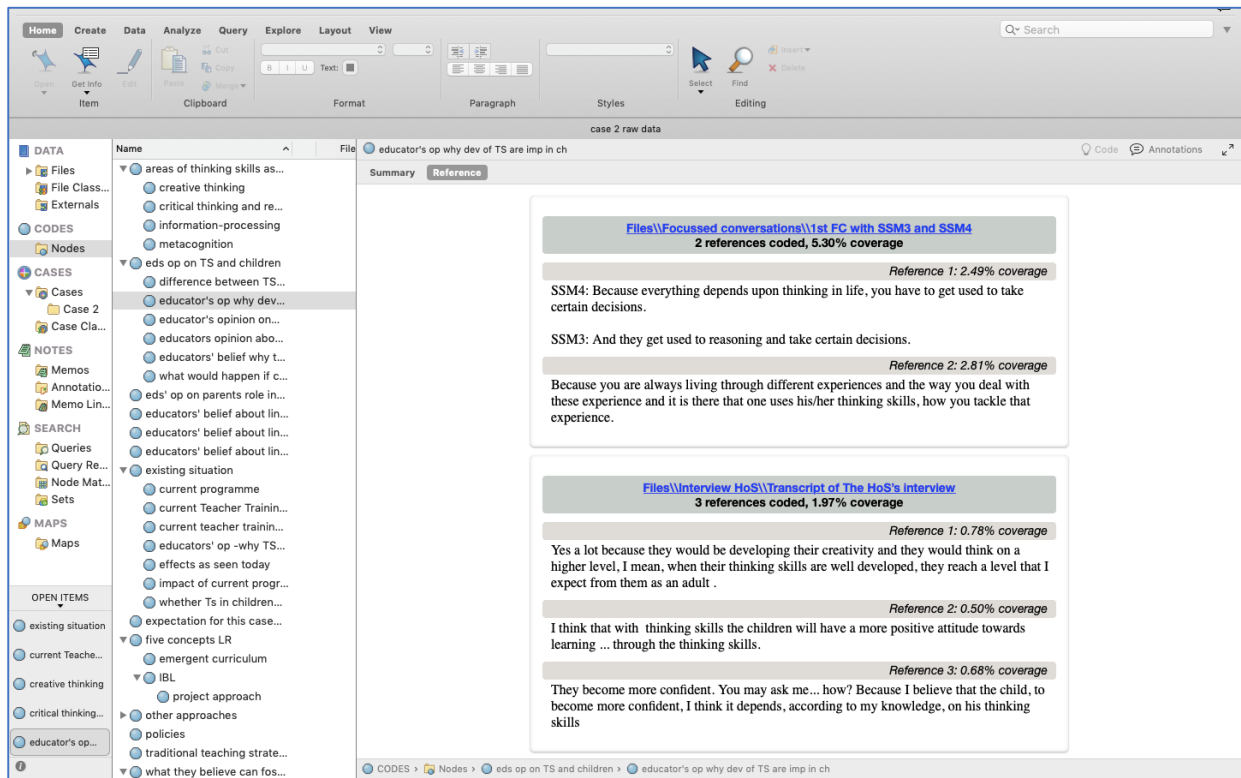


Figure 4.10: Screenshot illustrating the process of generating themes

4.13.2 Cross-Case Analysis.

For the cross-case analysis the “stacking comparable cases” strategy, was implemented for a better understanding of the studied concept (Miles et al., 2014, p. 103). The exercise was first carried out with the themes of all the case studies that resulted from the data that were intended to address the first research question. Then, the same process was replicated with the themes of all the case studies that were formed from the data collected to address the second research question. A matrix coding query on NVivo was run for each research question by inputting the cases as rows and themes as columns. Such display portrayed the similarities and differences between the cases and permitted a better understanding of each case. Throughout this process, themes were continuously checked to ensure that they represented the original data.

4.13.3 Hand coding.

Following this process and the reflexivity that I experienced throughout it, I felt that with regards to the second phase of data collection, I still lacked that actual feel of the data. Thus, I went back to this raw data and started to hand-code it all over again. Even though I knew from the literature that this was going to take long (Creswell, 2014; Wellington, 2015), I was also aware, from my own reflections that I needed to go through this process to immerse myself more in the data and discern the messages that it was conveying me. It was at this point that I started to interact with this data and that I felt that I owned the analysis process. In the same manner as happened with NVivo, themes began to emerge (Figure 4.11). These themes were then compared to the themes identified with NVivo. Thus, in addition, the process helped me to check the themes before starting the writing of the report.

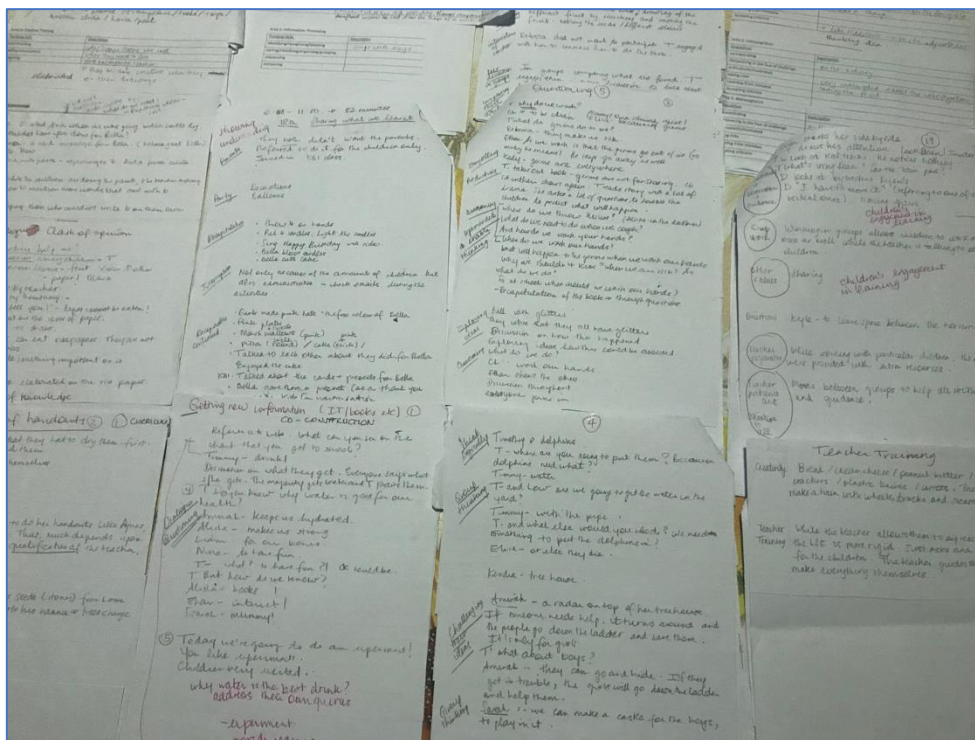


Figure 4.11: Examples of notes to illustrate the hand-coding process

4.13.4 Overarching and subsidiary Themes.

Following the advice in Miles and Huberman (1994), the themes that emerged from the two cross-case analyses were clustered progressively into higher-order groups until they were merged into five broader themes. The themes of ‘pedagogy’ and ‘Categories of thinking skills’ had to be divided into five subsidiary categories for more precise categorisation.

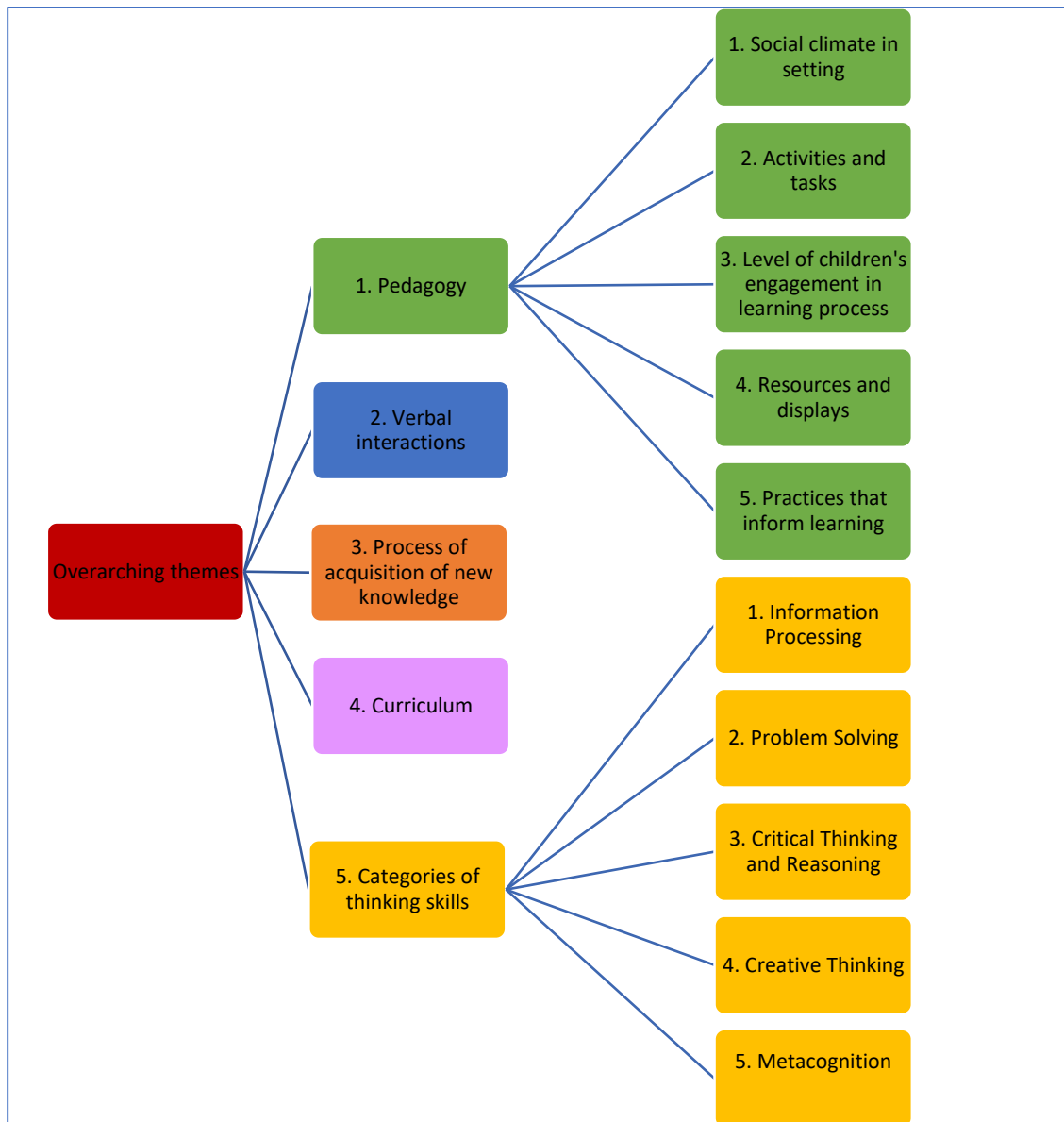


Figure 4.12: Overarching and Subsidiary Themes

As can be observed, four of the five overarching themes echo the theoretical constructs of the conceptual framework discussed in the literature review (Figure 4.12). The sole reason

behind this decision was that of providing a deeper analysis of the findings vis-a vis the arguments discussed in Chapter 2. This decision was in no way linked to “confirmation bias”, which as argued by Miles and Huberman (1994), is occasionally used by researchers to confirm their arguments. As previously debated, triangulation of data was conducted after the completion of Step 1 in each case to reduce biases, one of which was “confirmation bias” (Cohen et al., 2011, p. 185). Moreover, as explained earlier, the data collected in the interviews and FCs were all vetted by the participants through “respondent validation” (Cohen et al., 2011, p. 134).

4.13.5 Writing the report.

The written report has to be appropriate for the research; in this case for a multiple case study research which sought deep understanding and explanation of the studied phenomenon. In view of this purpose and the data analysis approach that was implemented to fulfil this purpose, I decided to choose the last alternative in the typology of case reports described by Yin (2009). This type of report, that can only be utilised for multiple case studies, consists of a thematic cross-case analysis without allocating specific sections to individual cases (Yin, 2009). However, in explaining cross-case issues, multiple references to individual cases are made, to illustrate and clarify the findings (Yin, 2009).

Accordingly, the reports in Chapters 5, 6 and 7 consist of a cross-case thematic analysis of the four case studies. Chapter 5 and Chapter 6 present and debate the findings of the first four overarching themes in the same sequence as indicated in Figure 4.12. These are: ‘Pedagogy’; ‘Verbal Interactions’; ‘Process of Acquisition of New Knowledge’ and ‘Curriculum’. Chapter 5 reports and analyses the findings of the first phase of data collection to address the first research question. Subsequently, Chapter 6 analyses the findings of the second phase of data collection in order to answer the first subsidiary question of the second research question. Chapter 7

concentrates on the findings of the fifth overarching theme, specifically ‘Categories of thinking skills’ based on the data generated during the second phase of data collection. The focus is on the ways through which the children demonstrated that they applied their thinking skills to address their inquiries.

For more detailed discussions, I refer to particular findings to enable the reader to understand better the reasons underlying my interpretations. Given the large amount of data generated through this research, it was impossible to present all the tables that summarised the raw data within the written report. Consequently, I provide two examples of such tables in each of the three chapters to highlight the explicit linkage between the raw data and the findings discussed in those particular sections. In order to demonstrate the coding process and that all claims are explicitly related to the body of data, the transcript of the first interview with the Headteacher was included as Appendix M and every subsection that focuses on the findings that emerged from the first interview with the Headteacher in Chapter 5 includes a table or notes that refer directly to the appendix. The same coding process was followed for the second interview.

With the intention of avoiding having a report that reflects “abstract realities” I include several quotations from the participants in order to bring forth their voices and enable the readers of this thesis to “hear” (Guba & Lincoln, 2005, p. 209) and discern the emotions underlying the words of the participants. Some of the findings are followed by reflexive boxes that are aimed at underscoring the process of change towards a pedagogy of thinking initiated with this research.

4.14 Conclusion

In this comprehensive chapter, I thoroughly discussed the methodological rationale of this study. It started by discussing the ontological and epistemological positions and then

elaborated on the interpretivist paradigm, positionality and insider research. Subsequently, the research design was discussed whereby the context and sample were explained. This was followed by a discussion on the case study design, which gave an overview of each case study. Afterwards, the research methods were explained and their use was justified. The ethical considerations and the trustworthiness of the research were then discussed respectively. A section on my reflexive process followed. Then, I presented a thorough explanation of the data analysis process. The chapter concluded with a discussion on the writing of the report. The next three chapters present and discuss the findings collected through the implementation of the research design.

Chapter 5: Getting the Picture

5.1 Introduction to Chapter

The meticulous process of interpretation is what transforms collected data into meaningful information to generate new knowledge and a deeper understanding of the researched inquiry (Willig, 2014). To this end, in this chapter, Chapter 6 and Chapter 7, I present and discuss the findings of this research. In this chapter, I answer the first research question. As a reminder, the question was:

What practices currently exist to cultivate thinking skills in these learners?

This is accomplished by presenting and debating the findings that were sought to get the picture; achieve well-informed knowledge of the existing situation and therefore identify the practices that were being used to enable the children to foster thinking skills.

As explained in the Methodology chapter (Section 4.13.4), the findings are presented and debated according to the first four overarching themes, which are ‘Pedagogy’, ‘Verbal Interactions’, ‘Process of Acquisition of New Knowledge’ and ‘Curriculum’. The titles of the subsequent sections offer a clearer indication of focus and content. Findings are presented first, divided under three headings to define the source of information from which I have collected the data. These are ‘Observations’, ‘Headteacher’ and ‘Educators’. These findings are subsequently triangulated and debated in the discussion that follows. As explained in the Methodology Chapter on reflexivity (Section 4.12), some findings are followed by reflexive boxes to give voice to my own thoughts with the aim of highlighting the process of change towards a pedagogy of thinking initiated by this research.

Following the rationale in the section on the writing of the report in the Methodology (Section 4.13.5), it is essential to draw direct linkages between the raw data and the findings. For

this purpose, two tables are included as examples. Table 5.4 illustrates the direct linkage between the data from the observations of the first data collection phase and the findings presented in Section 5.3.1. Table 5.6 demonstrates the explicit linkage between the data collected from the first set of focused conversations and the findings presented in Section 5.4.3.

In addition, the coding process used for the two interviews with the Headteacher is demonstrated in this chapter. Every subsection that focuses on the findings that emerged from the first interview with the Headteacher (5.2.1.2; 5.2.2.2; 5.2.3.2; 5.2.4.2; 5.2.5.2; 5.3.2; 5.4.2 and 5.5.2) includes a table or notes that refer directly to Appendix M. As indicated in the Methodology, Appendix M is the transcript of the first interview with the Headteacher. Thus, all claims in these subsections are explicitly related to the body of data.

Figure 5.1 provides the reader with a diagrammatical synopsis of the findings that are discussed in context and with the support of evidence in the remaining sections of this chapter.

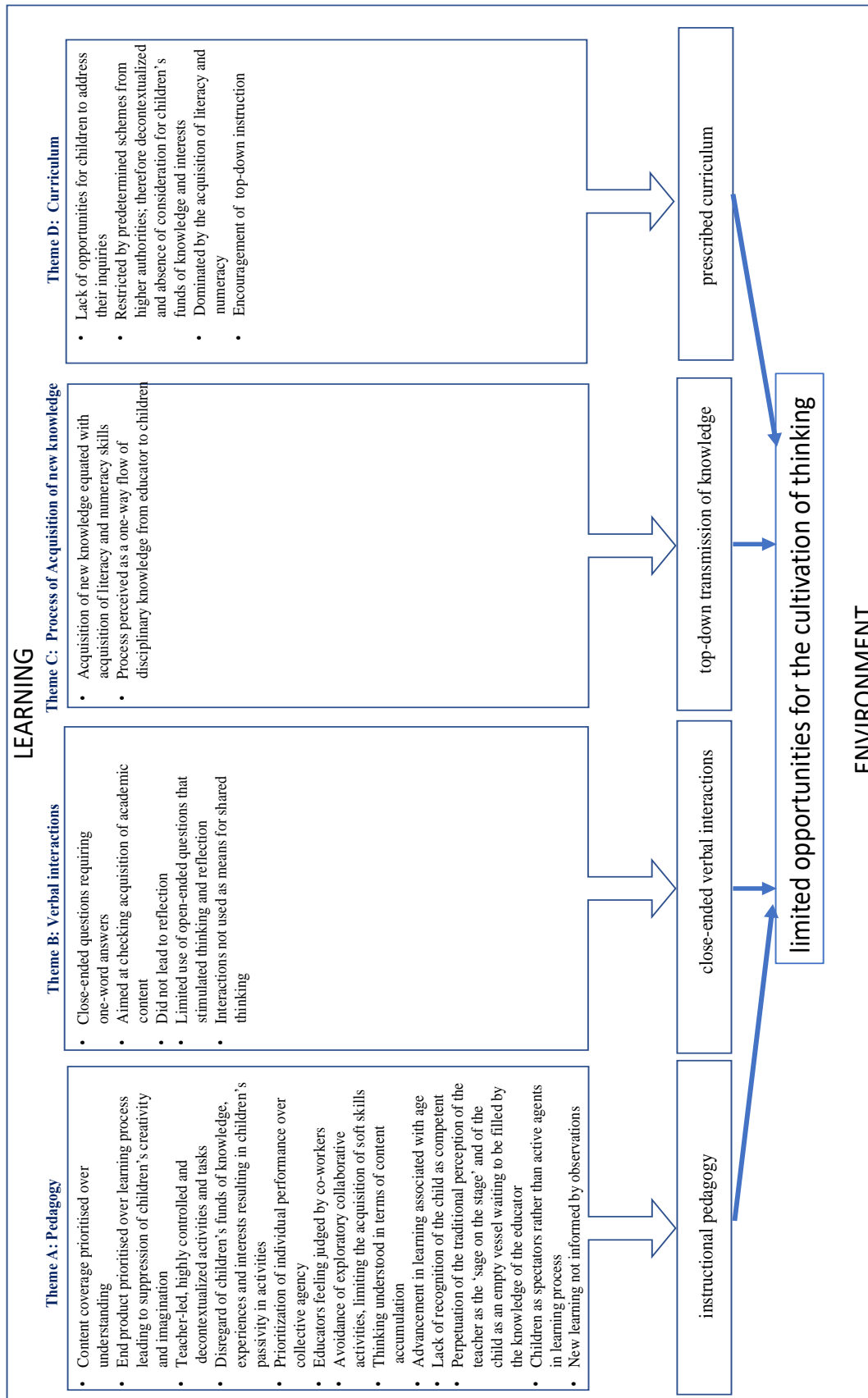


Figure 5.1: Summary of the findings related to the 1st research question

5.2 Overarching Theme 1: Was the pedagogy practised in the settings supporting children's thinking?

For a more informed understanding and deeper interpretation, the findings of the overarching theme 'Pedagogy' were clustered under five separate subsidiary themes. The findings and their interpretation are presented under these sub-themes. The titles of the subsidiary themes inform the reader about the emphasis of the section.

5.2.1 Subsidiary Theme 1: Was the prevailing social climate in the settings cultivating children's thinking?

5.2.1.1 Observations.

In the morning, all the children entered their setting happily and during the settling-in time, all the educators greeted them in a caring manner and made them feel welcome. The educators asked them about their siblings or pets and about any events to which they knew the children had attended and the children answered them willingly. However, as soon as the prayer was over, the atmosphere in the settings changed and the roles became more defined. The educators changed their approach to one which was more authoritative and stopped interacting with the children informally. The KGEs adopted the role of the traditional teacher by lowering their voices, instructing the children to clear the room of any toys, to sit in their places, to stop any fidgeting with fingers and to listen attentively to their explanation.

For the majority of the time, the children were always sitting down in their place except for break time during which they were taken out in the schoolyard to play and during the scheduled time allocated for Physical Education. It was only in Xitwa Setting that the desks were put to the side for the children to play freely in the morning during the settling-in time. In the same setting, the children were also gathered as a group for Circle Time and Story Telling. In the other settings, once the children arrived, they went to a corner with available toys to pick their

choice and take them to their table to play with them. These toys were always the same. During Circle Time and Story Telling, the children were told to remain seated in their place.

The informal atmosphere of the settling-in time was again present during break time in which the children and their educators familiarly chatted with each other and the children talked and play together. However, as soon as break time was over, the situation became formal once again and all interactions were strictly related to the task at hand.

The children were all seated in groups in the settings. However, they did not work on common tasks and during all the observed activities, each child had his own finished product. The arrangement only served for the sharing of resources, such as to share paint while each of them worked individually on the same task.

5.2.1.2 Headteacher.

In her interview, the Headteacher did not identify relationships as a key element in learning and the cultivation of thinking. She identified other factors such as the initiative of the KGE and the resources as will be discussed in later sections. Table 5.1 relates this claim to the raw data in Appendix M.

<u>Determinant Factors for fostering of Thinking skills according to HoS</u>
<ul style="list-style-type: none"> • KGE’s initiative • learning environment

Table 5.1: Codes under the node ‘Determinant Factors for fostering of Thinking skills according to HoS’

5.2.1.3 Educators.

From the FCs, it emerged that the KGEs acknowledged that their settings followed the traditional model. Various reasons emerged; the first being that if otherwise, they would be doing a disservice to the children because they would not prepare them for formal education. The

second concern was that they felt that if they would not prepare the children for formal education, they would be negatively judged as professionals by the teachers in Year 1. Miss Melita gathered both issues when she said:

*“We have to train them to sit down for a long time and to listen to the teacher. Those are important for learning, especially when they go to Year 1. And what would the teachers in Year 1 say about us? They would say that we did nothing here, we didn’t prepare them as we were supposed to do. And you know the Maltese expression, *Hu l-fama u mur orqod*, (meaning, once you get a bad reputation you’ll have it forever), it’s not nice to be judged like that.”*

(Ms Melita, 1st FC)

The third reason given by the educators for adopting a traditional setup was that they felt that it helped the children to be more concentrated on their work. This was the purpose of why they changed their style during activity time. They said that they interacted more freely with the children during break time because during that time the children did not have to give their full attention to the concept they were learning. Other reasons were that within a traditional structure, they would be able to control them more and to avoid that the children would get hurt more easily.

During the FCs, all the educators used certain terminology associated with formal education and instructional pedagogy. Vocabulary like ‘class’, ‘explanation’, ‘lessons’, ‘lesson plans’ and ‘timetable’ were repetitively used.

When asked a direct question about whether they believed that they were enabling the children to foster their thinking potential, all the educators responded in the affirmative. However, when asked on how they were managing to do so in such a climate, they said that it was quite difficult to do due to the outcomes that they had to enable the children to reach by the end of the year.

5.2.1.4 Discussion.

Given the above, it can be deduced that, as asserted by Papatheodorou and Moyles (2009), the pressure that is exerted on ECEC educators to teach the children for the sake of reaching the outcomes on the assessment reports determines the climate of the setting. This demand affected the climate in several ways. First of all, it affected the mindset of the educators. Since their only concern was to attend to curriculum requirements, their attention was on the finished product rather than on the process. As a result, the priority was given to coverage of content rather than to understanding as would happen in a setting that embraces relational pedagogy (Brownlee, 2004). This was confirmed by the educators and through the observations. Consequently, since thinking empowerment depends on understanding that necessitates focusing on the process, the climate was limiting the children from broadening their thinking. In addition, their attachment to traditional pedagogical approaches was also reflected in the terminology they used during the FCs, which is associated with formal education rather than preschool education in which the educators respond to the inquiries of their learners.

Additionally, it also affected the educators' self-perception. Since they knew that the progress reports were eventually assessed by their colleagues in the primary school, they wanted to ensure that all the children would have reached all the milestones indicated on the report; otherwise, they would lose the esteem they had from the Year 1 teachers. This was another reason that was hindering the placing of attention on understanding and thus, on the cultivation of thinking.

Secondly, the climate determined how the educators expected the children to perform and behave. The children could talk freely during informal times but had to sit down quietly, listen attentively and finish their individual tasks as expected during formal times. Two covert assumptions were imparted to the children through this behaviour. The first was that social

context and interactions have nothing to do with learning, which goes against the vast sociocultural literature and research that prove their influence on learning (Dewey, 1916; Vygotsky, 1978). The second one was that their individual academic performance and progress were to be their only concerns, which is a mentality that hinders their “collective agency” development (Bandura, 2000, p. 75).

Furthermore, the reasons given by the educators reflect that the choice of pedagogy was also regulated by the fact that they felt they had more control on what happened in the setting (Areljung & Kelly-Ware, 2017). Albeit one of the reasons given to justify why they preferred a traditional setting was that there was less possibility for the children to get hurt, it is evident that their major concern was the attention they had to give to curriculum requirements, which also hindered them in organising outdoor activities for children (Kelly & White, 2013). As a result, exploratory activities were avoided, completely ruling out the chance for the children to flourish their thinking through experiential learning (Frost & Sutterby, 2017; Waite, 2016).

It is interesting to note that reference to children’s lives only took place during informal times. This means that the children’s experiences were not considered as having a bearing on the learning of the children. Thus the children’s funds of knowledge were ignored instead of celebrated and used as a springboard for further learning (Chesworth, 2016).

The fact that relationships and collaborative work were not mentioned by the Headteacher as elements important for the cultivation of thinking could infer that they may not be considered to be important for learning to the same degree as the role of the KGE and the resources, which on the other hand, were mentioned repeatedly during the interview. Moyles (2006) argues that the school leader is a “culture setter” (p.64). Thus, the attitude that is adopted by the leader has a ripple effect on the frame of mind of the educators. In view of this, it may be debated that the

Headteacher's lack of recognition of the significance of relationships for learning may have, in turn, affected the perception that the educators had about relationships in the setting.

5.2.2 Subsidiary Theme 2: Were the settings' activities and tasks fostering children's thinking?

5.2.2.1 Observations.

From the observations, it was noticed that the children were all expected to do the same activity and complete the same task, to the extent that the end products were all replicas of the sample that the KGE showed them at the start. For instance, in an activity on sea creatures in Harifa Setting, the children were shown a craft that was previously prepared by one of the educators so that they would look at it and make their own. Then, they were each given a paper plate to paint in blue like the model. They were also given a set of cut-outs of sea creatures which they had to colour and then attach to the paper plate. All the children completed the activity as instructed. Figure 5.2 illustrates the activity.



Figure 5.2: Activity on Sea Creatures

The following is another example. In Rebbiegħa Setting, after a cooking activity in which the children were only observers, they were given a handout with a picture of a pan and some small neatly-cut pictures of the vegetables used in the dish. The children had to colour the vegetables and stick them on the pan. They were also instructed where they had to fix each

particular vegetable with the result that all the handouts ended up identical. Some of the children did nothing at all since even the glue was applied by Miss Melita. Throughout the activity, Miss Melita explained to me that she had to do so because they were still very young and had to be told exactly what to do because otherwise, they would not have been able to accomplish the task (Figure 5.3).

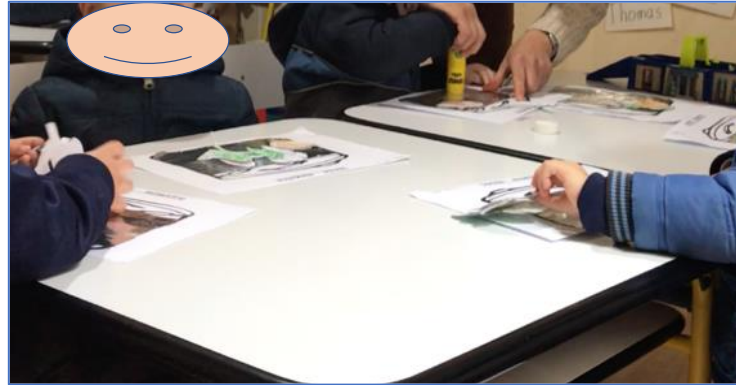


Figure 5.3: Soup activity

The majority of the tasks observed focused on literacy and numeracy and during such activities, the KGEs emphasised that what they were doing was very important and thus, the children had to pay more attention. During task completion, the children were immediately stopped by their educators when they started to chat with each other and to focus on their own work. While working on a task, the majority of the interactions between the educators and the children took place on a one-to-one basis and if the children wanted to ask something, they had to put up their hand. The process involved in completing tasks was never discussed as the children had to follow the exact instructions given by the KGEs. Feedback was always related to the outcome of the task rather than the process. A typical situation was that after a whole class activity, the children were given a handout to work out on their own. Once ready, they went to show it to their KGE who told them whether or not they had completed it as she had explained before. If the task was accomplished as she had indicated, their paper was put on display. If not,

the child was told exactly what needed to be changed and had to go back to his/her place to make the changes.

Due to the rigidity in which the tasks were executed, the children were not enabled to show their creativity. They were never observed drawing what they liked or creating something three-dimensional; always on paper. During one of the observations in Sajf Setting, the children were given a handout with a template of a kite and Miss Philippa told them that she wanted them to “*be creative*” (*Miss Philippa, 2nd Obs.*). She gave them three options; paint it with the three poster colours she gave them, colour it in crayons or make a collage with kite paper squares the other educator in the setting had previously cut for them.

5.2.2.2 Headteacher.

The Headteacher identified learning activities as an essential tool through which the KGE can foster thinking in children. She was passionate about this point and asserted that it was the duty of the KGE and all educators to organise challenging activities for the children. Table 5.2 relates this claim to the raw data in Appendix M.

<u>Duty to foster Thinking Skills in children according to HoS</u>
<ul style="list-style-type: none"> • duty of the KGE • duty of us all as adults and educators

Table 5.2: Codes under the node ‘Duty to foster Thinking Skills in children according to HoS’

Starting with references to the KGEs:

...although this principle is well known, I don’t think that it is always practised as it should.

(Headteacher, 1st Int.)

Throughout the interview, she returned to this point three times. The first time she referred to the KGEs:

The teacher should not be afraid to challenge the child because I believe in their potential and he can surprise the teacher with what he is capable of doing. I believe that the children can give us a lot of surprises. Everything depends on how they allow them to flourish, elicit their potential.

(Headteacher, 1st Int.)

Subsequently, she added another assertion, this time referring to all adults, including herself:

I think we need to work more because it is one of our limitations as adults that we are afraid to present certain challenges to the children because we are afraid that they are not capable of giving us the right answers. But they are, they need to be challenged.

(Headteacher, 1st Int.)

And referring again to all educators:

... we, as educators, should believe that they are capable, we shouldn't think otherwise. If we give them the opportunity, they can do anything.

(Headteacher, 1st Int.)

Reflexive Box:1

✎ ... By using 'we' in this comment, the Headteacher may be showing that although the major cause for her seems to be the lack of trust that the educators have in the competence of the child, she still feels that she can do something about it ... and she is also including me. This is an eye-opener for me as I also have to reflect on what I can do. My focus should not only be on bringing about changes in the settings but also on how I, as a leader can support this change to take place and continue after the study.

5.2.2.3 Educators.

All the educators said that their activities were enabling their children to advance their thinking. During the FCs, the majority of the educators equated such advancement to the

grasping of subject matter. Thus, I clarified the difference between understanding and learning and content accumulation. Subsequently, different viewpoints started to emerge, leading some of them to change their opinion. The majority of the educators were then unsure because they argued that most of their activities were centred around literacy and numeracy. They asserted that it was because of this reason that they felt that their activities were not allowing the children to strengthen their thinking abilities as much as they would have liked them to. Two educators who participated in two different FCs, gave a different reason, arguing that some of the children were still young. Miss Philippa argued that: “*They don’t grow at the same pace, you have to leave it up to them*” (Miss Philippa, 1st FC). Miss Miriam asserted that the children should not be expected to “*think and act beyond their capabilities, ‘imsieken’* (meaning someone that has to be pitied)” (Miss Miriam, 1st FC) and that was why sometimes, she and the other educators in the settings, ended up doing the whole task for them.

With regards to creativity all the educators maintained that they did several crafts with the children. When prompted to elaborate, the educators mentioned several resources that they used in craft activities and mentioned various crafts that they had done with the children in the setting. Nevertheless, Miss Victoria said that she wished she would find the time to allow the children to express themselves more creatively, as she was taught in the undergraduate course.

5.2.2.4 Discussion.

Bearing in mind, the above evidence, the following arguments arise. First, it is clear that the pressure exerted by the imposed outcomes was not only hindering the advancement of thinking through the climate of the setting but also through the activities prepared for the children. This was verified through the observations and the FCs. The educators did not only confuse thinking with content knowledge but were also aware as in Ring and O’Sullivan (2018) that their amplified emphasis on literacy and numeracy was not leaving room for other

competencies to flourish. Through her comments, the Headteacher showed that she was aware that the activities were not challenging the children cognitively enough. However, she did not attribute this to the excessive emphasis that the KGEs were giving to literacy and numeracy but to the apprehension that educators may have in challenging the children that may arise from the fear that they would not like their children to make mistakes. This may also be true because during task completion the educators overinstructed the children to avoid mistakes and when these happened, the children had to redo the task.

In addition, the educators' distorted conceptualisation of thinking was also impacting on the activities that they planned intending to stimulate the creativity of the children. This transpired very strongly during the kite activity in Sajf Setting in which Miss Philippa felt that by presenting the children with three options, she was fostering the children's creativity. These anecdotes underscore the role of school leaders in ensuring that educators have professional development training that enables them to acquire a comprehensive understanding of theoretical constructs and pedagogical practices. As asserted by Edwards (2009), it is on these understandings that educators develop their own interpretations and plan their activities for their children.

Secondly, it is evident that some educators' practices were informed by cognitive maturational and developmental theories which advocate that advancement in learning depends entirely on the children's age (Piaget, 1950). Thus, they attributed low achievement to young age and consequently, did not recognise the value in providing guided assistance to those children whom they considered were still young. This view eradicated any notions related to the concept of the ZPD in which the educator or a more knowledgeable other is there to support the learner to reach a higher level of competence (Vygotsky, 1978).

Thirdly, the quality of the tasks showed the conviction that the educators had of their children in terms of competence. Their quality reflected that there was limited consideration of the child as competent, which is one of the pillars of relational pedagogy (Brownlee, 2004). If educators do not believe that their learners can achieve high-level tasks, they automatically do not present them with such tasks (Freire, 1970). Due to this, the opportunities for the children to foster their thinking and especially, creativity were scant. On the other hand, from her comments, the Headteacher believed that the children were competent and asserted that everything depended upon how much the KGEs were willing to allow this competence to flourish.

Finally, the tasks did not emerge from the inquiries of the children since relationships were excluded from the learning time and the information that was shared during these interactions did not serve the KGEs to plan the activities. This shows that the prior knowledge and the funds of knowledge that the children had on the topic that was being taught were also ignored (González et al., 2005). Such situations continue to intensify the outdated perception of the child as an empty vessel who goes to school to be filled with the content conveyed by the teacher (Freire, 1970).

5.2.3 Subsidiary Theme 3: What was the level of engagement of the children in their learning?

5.2.3.1 Observations.

The quality of the tasks done in settings had an additional impact on the engagement of the children in their learning. There was a notable difference in the level of engagement and interaction of the children during informal times and while working on tasks. For instance, Marcus, a four-year-old child in Rebbiegħa Setting was observed spending his break times talking to Miss Melita, generally about his cat Ginger. He gave detailed accounts of how his parents took it to the vet and how he took care of it. Miss Melita enjoyed listening to him, asking

him questions and he looked very excited while talking about his pet. However, as soon as activity time started again and Miss Melita told the children to stop chatting because it was “*now lesson time again*” (*Miss Melita, 7th Obs.*), Marcus returned to his passive way of behaving. He did all the tasks but not with the same enthusiasm that he had while talking about his cat. This kind of behaviour was quite common among the children. When they were asked to comment about something they were doing, the majority of the children found it very difficult and some did not comment at all. I observed that no reference was ever made during activity time to what they talked about in less formal intervals since all interactions centred around the completion of the task.

The passivity of the children also occurred during activities that were different from the usual ones. For example, one of the activities that I observed was the cooking of Minestra, which is a local soup dish. Miss Melita was very excited about it and the children were seated in a group to observe the teacher preparing the dish. Miss Melita did everything and the children were not allowed to touch the vegetables or do anything. They simply had to observe what she was doing and respond to closed questions regarding the types and colours of the vegetables that were being cut by her. As a result, as the activity progressed the children started to lose interest in what Miss Melita was doing and some of them ended up running after each other while Miss Melita was still preparing the dish.

5.2.3.2 Headteacher.

During the interview, the Headteacher asserted that in order to engage the children and empower them to cultivate their thinking, the KGE has to

...enter the life of the child...to help him...so this means that you need to know his background so that you can talk to him much easier, reach him much easier and teach him according to all of this.

(*Headteacher, 1st Int.*) (Appendix M coded under node: ‘Knowing the child’)

Reflexive Box:2

“ ... Even though at face value, this is a positive comment, it may be suggesting that the educator is in a dominant position with respect to the child. There may be the implication that the educator needs the knowledge about the child’s context in order to judge his level of competence and “teach” him accordingly. This stance does not promote relationships as a springboard for learning. Thus, I think that I need to advocate in favour of weaving learning through relational pedagogy in which the voices of both the child and educator are on the same level.

5.2.3.3 Educators.

There was a common concern among the educators in the four FCs that they wished that their children would participate much more during the activities. When asked why this was happening, the majority of the educators said that the motive was that the children were still very young. For them, the children were unable to express themselves well and to articulate what they were learning due to their tender age. Miss Victoria gave a completely different reason, stating that they should try to make learning more relevant to the children. As an example, she said that if she knew that some children in her setting liked cars, then she should give them cars to count instead of any other resource.

5.2.3.4 Discussion.

The lack of coherence between the experiences of the children and the tasks planned by their educators showed that the existing pedagogy was not empowering the children to elicit meaning out of their daily experiences (Papatheodorou, 2009). The pedagogy was not taking into consideration the cultural values and contextual circumstances of the learners, causing the children to transform themselves into passive participants during the activities (Dewey 1916; Vygotsky, 1978).

By instructing the children, at the beginning of every activity, to behave themselves well and pay their full attention to them because learning time was going to start again, the educators were drawing a sharp distinction between informal intervals and activity time. The children understood the difference and in fact, changed their behaviour accordingly, as in the case of Marcus. This implies that the educators did not consider informal intervals as educational for the children and this could be another reason why they did not refer to the children's experiences during activity time. Another repercussion was that as from preschool the children were already getting the distorted message that knowledge is compartmentalised into subjects and that learning is separate from their everyday experiences, as asserted in the *Plowden Report* (Her Majesty's Stationery Office, 1967).

Moreover, the fact that all the tasks were previously prepared by the educators and the children simply had to execute the instructions was not enabling them to become critical of what was happening around them and to give their opinion on the tasks that they were doing (Hedges & Cooper, 2018). As a result, they had to be submissive to their educators and do the tasks simply because they were told so. Thus, such a situation was perpetuating the traditional perception of learners as submissive to their educator who is there to fill them up with content knowledge without allowing them to question such practice (Freire, 1970).

The majority of the educators used once again cognitive maturational and developmental theories to interpret the children's passivity. In three of the FCs, the educators agreed that it was a sign of lack of ability in the children because of their age. In reality, passivity was created because the educators were not capitalising on the experiences and interests of the children to plan their activities. They were not considering the experiences of the children as a springboard for further learning but chose the topics and prepared everything beforehand (Rinaldi, 2006). Referring back to the anecdote on Marcus, perhaps if Miss Melita had tried to build on his

interest as the educators in Hedges and Cooper (2018) did with Hal and plan activities through which he could clear some of his misconceptions on cats, Marcus may have been much more interested in the activities of the setting.

Thus, to engage the children it is not enough to pick on their interest and give them particular resources instead of others, as Miss Victoria stated. The educators have to engage with the children to get to know any misunderstandings that they might have, get genuinely interested in the children's inquiries and provide activities so that the children can broaden their understanding (Peters & Davis, 2015).

In addition, passivity was also caused by the lack of involvement of the children in experiential learning (Dewey, 1938). As in the cooking activity described earlier, the children were only spectators since the actual preparation was all done by the KGE. Thus, even though the activity was more interesting than the others that were usually organised, the children were still passive because all they had to do was look at their KGE doing everything. Such a situation was surely not helping to engage those children who found it more difficult than others to get active (Kalliala, 2014).

During the workshops, the educators, especially the KGEs, were concerned about the limited participation and interest of the children since they argued that they were doing their best to include interesting activities such as cooking and arts and crafts. As a result, some of them changed their opinion on the fact that the children were being enabled to develop their thinking. They were becoming more conscious that thinking in children was not being cultivated enough and wanted to learn how they could improve their practice.

Reflexive Box: 3

4 ... This learning journey is not only enabling me to engage in a reflexive process. The questions they came with for these workshops signalled that as from the FCs, they started to reflect on their practices. In fact, they came for these workshops with questions, concerns and doubts which they said they have developed as a result of what we have discussed in the FCs. Whereas during the FCs, they said that they were cultivating thinking in children, now they are becoming aware that a change in pedagogy is needed to boost thinking in children. They are looking forward to the intervention as much as me.

As in Fisher and Wood (2012), the “collaborative reflective dialogue” (p. 114) facilitated the process of change. Here, it constituted the first steps of the changing process since it enhanced the level of awareness of the KGEs leading them to start evaluating their practices and engaging with theoretical constructs (Fisher & Wood, 2012). Referring to the TOC (Figure 4.6), it can be argued that these discussions facilitated the pathway between the workshops and the intervention.

During the workshops, I took the opportunity to explain the benefits of relational pedagogy and they were looking forward to experiencing the intervention to see how the experiences and interests of the children can serve as foundation for learning through which thinking could flourish.

5.2.4 Subsidiary Theme 4: What did the resources and displays infer about the ways in which thinking was being cultivated in the settings?

5.2.4.1 Observations.

Referring to the settings’ environment, these were largely decorated with letters, numbers and charts made by their educators. They had shelves with neatly piled up resources which the children used in the morning before the activities and during break time. The displayed works consisted of children’s finished works, which all looked the same and which generally consisted

of colouring and glueing of neatly cut shapes or objects. There were no learning invitation corners, learning provocations, treasure baskets and sensory bins. In each school, there was a multi-activity room with corners set up for pretend play, construction play and cooking. In the 1st FCs, the educators of both schools confirmed that this room was rarely used except for the Physical Education sessions when it rained.

5.2.4.2 Headteacher.

The Headteacher mentioned the learning environment as an important element in fostering thinking in children. She asserted that she always bought all the resources that the staff requested and that it did not take much for the KGE to include certain resources, such as plants, to stimulate children's thinking. She argued that everything depended on the KGEs' initiative and willingness to create a stimulating environment for the children. These findings are coded under two nodes: 'Determinant Factors for fostering of Thinking skills according to HoS' and 'Head's role according to her' (Appendix M).

5.2.4.3 Educators.

With regards to the environment, the first thing that the educators commented about was the size of their settings. As Miss Philippa put it: "*We try our best but we have to work with what we have*" (Miss Philippa, 1st FC). That was the reason that the majority gave for having all the resources stacked up on shelves. Referring to the displays, they said that they were exhibiting children's work. All of them emphasised that they did not like to exhibit works with imperfections because if someone saw them, they would say that they were careless and did not help the children enough to make a perfect craft. With regards to the resources, they all said they wished to have more. Two KGEs emphasised that they wanted toys that the children can play with in the morning on their tables so that can settle down for the lessons. When the multi-activity room was mentioned, all the educators said that they preferred doing the activities within

their settings and if they wanted their children to use a particular item, they would get it themselves from the room into the setting. The reasons that emerged were that sometimes they lost control of the children in that room and to avoid having children arguing because they did not know how to share and play together.

5.2.4.4 Discussion.

Consequently, another reason for giving such detailed instructions to the children while completing a task was that the educators wanted to ascertain that end products were all perfect before they were put on display. Their remarks imply that they did not only feel judged by their colleagues in Year 1 through the reports. They also feared to display the children's imaginative works because they might contain imprecisions that could be understood as a lack of professionalism on their part. This argument goes against the spirit of early years education which stipulates that early years' settings should instead, be filled with children's authentic artefacts that exemplify their learning journey and understanding of the world around them (Edwards et al., 1998). Consequently, artistic creativity was not encouraged and creative thinking was considered as an aptitude that belonged to older children.

By resources, the majority of the educators meant the toys with which the children played in the morning and were not aware that certain resources such as learning invitations could help to provoke the children's curiosities and thus generate thinking and learning (Nimmo, 1998). The only exception was Miss Victoria who claimed that she was aware of these resources. Since they made a sharp distinction between the unstructured time slots and lesson time, it was normal for them to have the toys stacked on shelves because as two of them maintained, toys served to calm down the children before starting with their lessons. It was the Headteacher who observed that resources could be used to provoke thinking. Once again she asserted that the cultivation of thinking in children depended greatly on the enthusiasm of the educators. While talking about

resources, it was the only time during the interview that the Headteacher referred to her role in the fostering of thinking in children who attended the settings. She asserted that she was doing her duty by purchasing all the resources that the educators asked her to buy. However, the role of a leader goes beyond the number of resources supplied to the school. Garvey and Lancaster (2010) observe that school leaders have to embrace seven different roles; they have to be learners, enablers, mentors, champions, motivators, problem solvers and developers. These qualities highlight the responsibility of the school leader to engage with educators to understand their needs and consequently provide them with the professional development they need to enrich their pedagogical practices.

Moreover, the only room that offered some opportunity for the children to imagine and be creative was rarely used. The reasons given by the KGEs continued to shed light on how much their instructional pedagogy was hindering the children from cultivating their thinking. Moreover, their pedagogy was also hampering the children from cultivating soft skills that are crucial for their holistic development and active participation as specified in Te Whāriki (MoE, 2017). Given that during the activities of the setting, the children had to work on their own, the use of the learning stations in that room would have served to show the children how they could be creative together. The fact that the children argued about the resources in that room may show that they were not being given opportunities to learn how to work on common tasks through social collaboration (Sweeney & Fillmore, 2018).

Another reason given by one of the educators was that she lost control of the children whenever she took them to that room. This elucidates the fact that this educator was not perceiving the value of such a learning environment and interpreted the children's excitement as a lack of control. As a result, children's excitement and curiosity to explore were not exploited

enough to broaden her children’s thinking and to cultivate their learning dispositions (Ring & O’Sullivan, 2018).

5.2.5 Subsidiary Theme 5: What practices were used to inform learning and consequently stimulate children’s thinking?

5.2.5.1 Observations.

The use of observation or dialogue as a tool to inform learning was not observed during fieldwork. During playtime and break time, the educators supervised the children to ensure that there was no rough and tumble play.

5.2.5.2 Headteacher.

The Headteacher did not mention any strategy through which the educators can gather information about the child so as to plan further learning. When asked directly what she thought of observing and interacting with the children to inform learning, she said that this was a new concept for her and thought that it was also new for the educators. This finding forms part of the coded data entitled ‘Pedagogy of listening’ clustered under the node ‘Knowing the child’ (Appendix M).

<u>Knowing the child</u>
• KGE getting to know the child
• funds of knowledge
• pedagogy of listening

Table 5.3: Codes under the node ‘Knowing the child’

5.2.5.3 Educators.

Like the Headteacher had said in her interview, the majority of the educators affirmed that they had never heard about using observation and interactions to inform practice. The only exception was Miss Victoria who claimed that she was aware of the concept. When asked if she

used any method with her children, she said that she paid more attention to what the children said during Circle Time rather than what they played with because the resources in the setting were always the same, and thus, in her opinion, they did not offer any challenge to the children.

The remark that mostly stood out was made by Miss Philippa who said that in her opinion children should not be observed especially during playtime because:

“that is their [the children’s] relaxed time. We have to give them some space from the lessons to do whatever they like!”
(Miss Philippa, 1st FC)

The exact words used in Maltese by Miss Philippa for “give them some space” is “*nagħtuhom nifs*” which in its literal form means giving them time to breathe. Miss Philippa referred back to this comment during the workshop. She told me that she had reflected on what was discussed with regards to observations and was now of the opinion that if she would know how to do it, the information she would gather “*would give life to learning and teaching*” (Miss Philippa, Workshop).

Reflexive Box: 4

↵ ... Miss Philippa was very interested in the ‘pedagogy of listening’ and the ‘funds of knowledge’ concept and it was indeed a sigh of relief when she referred back to her comment on observations. Her change in perspective indicates that she is now perceiving the difference between observation and supervision. I am becoming more aware that their practices may be determined by their lack of knowledge of new strategies rather than by their determination to stick to traditional teaching strategies. The mentality is slowly changing. I have to ensure that during the projects they will implement these strategies so that they can experience them and perceive the difference that they make on children’s learning and thinking.

5.2.5.4 Discussion.

The above findings show that the notion of “stepping back to observe and/or listen to children carefully” (Hedges & Cooper, 2014, p. 15) as a means to inform learning was a new

concept for both the Headteacher and the large part of the educators and consequently, it was not witnessed during the observations. If the first quoted verbatim of Miss Philippa is taken on its own, it indicates that Miss Philippa felt that break time was a requirement for the children because it was the time during which they could behave and play as they are expected to do since they were children. However, her change of heart showed that her initial reaction may have also been due to the fact that she was not aware of the strategies that could be used to perceive and understand children's interests. Reflection made her aware that such information would be beneficial to lessen the passivity of the children during activities since she felt she needed to enliven again the situation she had in her setting. As argued in Lin and Magnuson (2018), such professional learning opportunities can help ECEC educators with limited qualifications and training to learn about appropriate practices. Referring to Table 4.1 in Section 4.6.2 of the Methodology chapter, which portrayed the qualifications of the KGEs, Miss Philippa had basic training in ECEC which she received prior to her employment more than twenty years ago. Her change of viewpoint on observations show that the workshop enabled her to engage in reflective practice.

5.3 Overarching Theme 2: How were the verbal interactions supporting children's thinking?

Table 5.4 illustrates the explicit linkage between the raw data from the observations and the findings discussed in this section. It identifies the setting, the specific observation, the particular vignette and the purpose behind the verbal interaction that took place during that vignette.

<u>Setting</u>	<u>Obs. No.</u>	<u>Vignette</u>	<u>Purpose of Verbal Interaction</u>
RS	1	Cooking Minestra	Checking recall of related vocabulary and colours
SS	2	Show and Tell	Retrieve factual information
HS	3	Propositions	Checking recall of previously learnt terms through correct identification of proposition
XS	4	/i/ sound	Checking comprehension/ encouraging imagination
RS	7	Puppet Theatre on Transportation	Checking recall of related vocabulary and information

Table 5.4: Linkage between the raw data from the observations and the findings for Section 5.3.1

5.3.1 Observations.

As argued in the previous section, the children were generally asked to be quiet and to concentrate on what they were doing during task completion. However, there were other activities, even though far less in frequency, that involved verbal interactions. During these exchanges, closed questions dominated verbal interactions in three of the settings.

As an example from Rebbiegħa Setting, I refer back to the cooking activity in which a traditional Maltese dish was prepared by Miss Melita. Throughout the preparation, Miss Melita asked the children the same questions repeatedly for every vegetable she peeled, mainly “*What colour is this vegetable?*” and “*What is the first sound in the name of this vegetable?*” (*Miss Melita, 1st Obs*). The same situation occurred in Sajf Setting, in which one of the observed activities was a Show and Tell activity. Three children brought a toy from home to talk about it. These children stood in turns, with their toy, in front of the whole group. They were not eloquent enough to talk about it on their own and their KGE used questions as prompts. The three

questions that were asked were the following: “*Who bought it for you?*”, “*What is it?*” and “*Do you play with it?*” (*Miss Philippa, 2nd Obs.*). As an illustration from Harifa Setting, I refer to an activity they did on prepositions. The children were seated in three groups but each child had to do the task on his/her own with the educator in that group. At the centre of each group, there was a lid of a box and a small monkey, which the educator moved to a different position for each child and always asked the question: “*Where is the monkey now?*” (*Educators, 3rd Obs.*). The child had to give a full answer, indicating its position, for instance, “*The monkey is on the lid*” (*Children, 3rd Obs.*). The three educators followed the same pattern with all the children in their group and the answers of the children were all the same except for the preposition.

In Xitwa Setting, the situation was slightly different because even though the majority of the questions were close-ended as in the other settings, open-ended questioning was also observed. For instance, during a literacy activity on the /i/ sound, she read them a story linked to the sound, using a big book on the sound /i/ of the phonics programme followed by the school. She asked a lot of questions to check the children’s comprehension such as “*Where is the boy?*” and “*What happened?*” but also added questions such as “*What could have happened to Inky?*”, “*Why did the boy name the mouse Inky?*” (*Miss Victoria, 4th Obs.*). The children were given time to think and to be imaginative.

On other occasions, the educators were observed answering their own questions, without allowing enough time for the children to answer. As an example, I shall describe an activity in Rebbiegħa Setting on transportation, which was organised by Miss Melita to recapitulate what they have learned about the topic (*7th Obs.*). Miss Melita set up the puppet theatre that was stored on one of the setting’s cabinets. She put it on a table covered with a large tablecloth and got two hand puppets. The children sat in front of the theatre to watch the show. The puppets asked the children what were the different modes of transportation they had talked about during that week

and then to give examples of the different means that exist for each mode. As soon as the questions were asked, the children were not given the chance to think because the questions were immediately answered by the other puppet. As a result, the children lost their interest and some of them started to get up and go to peep behind the curtains of the theatre and under the tablecloth. Once Miss Melita noticed what was happening, she immediately stopped the activity, put everything away and started another activity in which the children had to complete a handout.

5.3.2 Headteacher.

The findings presented in this section was coded as ‘Dialogues and questions’ which was then clustered under the node ‘Practices to foster thinking skills’ (Appendix M):

<u>Practices to foster thinking skills</u>
<ul style="list-style-type: none"> • co-construction
<ul style="list-style-type: none"> • dialogues and questions
<ul style="list-style-type: none"> • emergent curriculum
<ul style="list-style-type: none"> • IBL

Table 5.5: Codes under the node ‘Practices to foster thinking skills’

When asked to mention ways through which KG-aged children can be enabled to think, the Headteacher mentioned dialogues and questioning immediately. Once again she asserted that educators knew the advantages of using such methods with the children to facilitate their problem solving, to become aware of different possibilities and also to reflect on what they were learning. However, she was not convinced that this was taking place:

By means of dialogues and questions the children will find it easier to see different solutions to solve their problems, brainstorm their ideas as well and eventually become better problem solvers. As I said earlier, I don't think that the children in our Kindergartens are being challenged enough, even though everyone knows the advantages of using dialogues. No, I think there is still a long way to go to ascertain ourselves that our children are benefiting from this teaching strategy. (Headteacher, 1st Int.).

Reflexive Box: 5

... Thus, both the Headteacher and I are aware that our children are not being cognitively challenged enough. Referring to the children as 'our children' continues to heighten my responsibility in supporting the educators throughout the intervention so that they will see for themselves that the children ARE capable of using their minds.

5.3.3 Educators.

When encouraged to say how they were empowering the children to cultivate their thinking, dialogues and questioning were mentioned in the four FCs. Miss Nina for instance, said that they used whole group discussions and Miss Philippa who participated in the same FC, elaborated that these discussions took place through Show and Tell activities. Miss Miriam said that questions formed “*an integral part of my lessons*” (Miss Miriam, 1st FC). Miss Melita stated that she tried her best to question the children but the latter found it hard to answer because they were still very young. Thus, she ended up answering her own questions; to give them model answers. Miss Victoria said that dialogues were frequently used in her setting because she insisted that “*With regards to young children, the more you ask them, the more they would be able to express themselves*” (Miss Victoria, 1st FC). Miss Rosaria who was in the same setting and FC as Miss Victoria, added that questioning has to be a continuous process because:

Obviously, the more you ask them the more you encourage them and the more they come up with good ideas and express their thoughts.
(Miss Rosaria, 1st FC)

However, there were other comments which showed that some educators were conscious that there was room for improvement in this area. For example, Miss Carmela who was in the same setting and FC as Miss Miriam said that she wished that in their setting the children would be given the opportunity to engage in more dialogues while they were working:

I think we can provide them with opportunities to share their views as well while they are working. We will get to know what's going on in their minds, whether they are thinking about what they are doing.
(Miss Carmela, 1st FC)

5.3.4 Discussion.

Although the majority of the educators were under the impression that they were engaging the children in dialogues, evidence from the field showed that they were only using close-ended questions that asked for one-word answers. The sole purpose of such questions was that of checking the acquisition of academic content, as is typical in a setting that practises instructional pedagogy (van Der Veen & van Oers, 2017). For instance, even though Miss Miriam felt that questioning was part and parcel of the activities in her setting, in reality, her children were all asked the same question over and over again. In the case of the cooking activity in Rebbiegħa Setting, the questions had nothing to do with the process of the activity and the children were only asked to recall facts. Reflecting on the nature of these interactions, it could be said that they cannot be defined as dialogues because, in a dialogue, people build on each other's input whereas in this case, the interactions between the children and their educator stopped with the first answer of the child (van Der Veen & van Oers, 2017). As a result, interactions did not serve as a means to direct children through their ZPD or to enable them to reflect on what they were learning (Bruner 1996, Vygotsky, 1978).

In certain cases, the children were not given the time to express themselves and the KGE ended up answering her own questions. This situation affected the interest of the children with the result that they became very distracted and the KGE had to end the activity. The KGE again decoded the children's loss of interest in terms of age and justified her replies as model answers. However, young children do not give immediate answers because they may have needed more

time to construct their responses and not because they were still young (Gjems, 2010). Still, if this was the case, the children weren't even asked to repeat her answers.

Even though the use of dialogues was also very limited in Xitwa Setting, the use of open-ended questions gave the children the opportunity to be creative because they came up with different versions of what could have happened to Inky. The fact that Miss Victoria asked some open-ended questions, even if they formed part of a highly structured activity, gave the possibility to the children in her setting to think.

Moreover, the children were never observed interacting among themselves about what they were learning. They interacted among themselves mostly during playtime. Thus, there was no use of dialogue as a shared thinking tool to solve a common problem as in Peters and Davis (2015). This type of interaction was not mentioned by the adult participants except for Miss Carmela who wished to see some improvement in this area and by the Headteacher who said that the children could exchange their ideas to become better problem solvers.

As for the key elements of relational pedagogy, the Headteacher hinted that everything depended upon the ability and initiative of the KGE. She disclosed that at that point in time, the children were not being challenged to grow and broaden their thinking abilities. Her opinion was confirmed through the observations.

5.4 Overarching Theme 3: How was the process of acquisition of new knowledge activating children's thinking?

5.4.1 Observations.

As already elucidated in the section on tasks and resources in Relational Pedagogy, the activities done in the settings were not emerging from the interests of the children but were

previously prepared by the educators, and mostly consisted of handouts on numbers and letter sounds. Although some of the activities were more interesting than others and thus, the educators expected the children to be more enthusiastic, the latter were still quite passive and accomplished the activities because they were expected to do so. As a result, not a single occasion was observed in which the children had the opportunity to co-construct knowledge together and thus, broaden their thinking.

5.4.2 Headteacher.

When asked about what she thought of co-construction of knowledge, the Headteacher was in favour of the strategy and said that it would be interesting to try it out with the children. However, she added:

I think that for this to succeed, you need to have fewer children in the class, more personnel in the classroom and the teachers need to be prepared for this because I don't think that our teachers are trained for this.
(Headteacher, 1st Int.)

These claims are grounded on the raw data coded under 'Co-construction' which is clustered under the node "Practices to foster thinking skills' (Appendix M) as indicated in Table 5.5.

5.4.3 Educators

Table 5.6 is the second example in this chapter that portrays the direct linkage between the raw data that emerged from the FCs and the findings presented in this section. For each educator, the table specifies the particular FC in which the data emerged, the prior knowledge that she had on co-construction and how she manifested that prior knowledge, her attitude towards co-construction and the constraint that she identified as the issue that would limit the application of co-construction within the setting.

<u>Educators</u>	<u>Focused Conversation</u>	<u>Knowledge of co-construction</u>		<u>Attitude towards the construct</u>	<u>Identified Constraint</u>
		<u>Had prior knowledge of the construct</u>	<u>Evidence of their prior knowledge</u>		
Miss Victoria & Miss Rosaria	1 st FC of XS	Yes	Referred to activity on rockets and Tiago’s intervention	Positive and hopeful	Imposed programme and checklists
Miss Melita	1 st FC of RS	No	N/A	Doubtful	Unconvinced about any possibility of application within the setting
Miss Dolores	1 st FC of RS	No	N/A	Doubtful	Unconvinced about any possibility of application within the setting
Miss Nina	1 st FC of SS	No	N/A	Sceptical	Not applicable in practice – “something that looks good in a book”
Miss Carmela	1 st FC of HS	No	N/A	Positive	Unsure. Doubtful about the acquisition of content knowledge if the existing approach would be replaced by co-construction
Miss Miriam	1 st FC of HS	No	N/A	Doubtful	Unconvinced about any possibility of application within the setting
Miss Lucy	1 st FC of HS	No	N/A	Doubtful	Unconvinced about any possibility of application within the setting

Table 5.6: Linkage between the raw data from the focused conversations and the findings for Section 5.4.3

The concept of co-construction was also new to the educators except for Miss Victoria and Miss Rosaria. In their FC, these two educators narrated about an occasion when they were doing an activity on the number two and Tiago associated the number to rockets because he said that rockets had several duplicate parts. They described how they looked up for information on

rockets, discovered which were the duplicate parts and talked about how all the children benefited from the activity. When asked if such activities happened frequently, they both answered in the negative and wished that they would happen more often because they felt that such activities helped the children to apply their thinking while working together. Miss Victoria said nostalgically:

*I wish that we could do it more often but we cannot afford because you have to leave everything on the side and concentrate on that (pointing to her file, meaning her schemes).
(Miss Victoria, 1st FC)*

With regards to the other educators, co-construction was a new concept and like the Headteacher doubted how it could take place in the setting and whether the children would be able to learn the content they wanted them to learn. For instance, Miss Nina's reaction was:

*It seems interesting but it also seems something that looks good in a book but then, in reality, does not work.
(Miss Nina, 1st FC)*

In another FC, Miss Carmela said:

*I like it but how are the children going to learn?
(Miss Carmela, 1st FC)*

5.4.4 Discussion

Given that the children were not co-constructing new knowledge themselves, they were not being enabled to think because they accomplished tasks simply because they were told to do so. This came out very strongly in the observations since the children manifested it in the way they behaved during the activities. The idea of co-construction of knowledge for the purpose of strengthening thinking and learning in children was new to the Headteacher who seemed sceptic about whether it could be actually implemented within the context of these specific settings. Her scepticism was also popular among the large part of the educators who were unsure about

whether it would work in the reality of the setting. Since as argued, in the previous sections, for the majority of the educators learning stopped with numbers and letters, it could be that they were afraid that through co-construction the children would not be able to grasp such content. This is clearly depicted in the comment by Miss Carmela who questioned how they were going to learn. Given the contextual information gathered through the evidence generated after Step 1, it could be said that by using the word ‘learn’, Miss Carmela may have meant assimilating the letters and numbers rather than broadening understanding, which has to be the ultimate aim of education (Dewey,1938).

The reactions of Miss Victoria and Miss Rosaria were different from those of the other educators. Their comments showed that unlike for the other educators, for them the concept was not new and they believed in its potential in cultivating thinking in children. Miss Rosaria explained that she became aware of the value of co-construction during the one-off activities in which Miss Victoria implemented it in the setting. However, as for all the other aspects affected by the instructional pedagogy that the “schoolification epidemic” (Ring and O’Sullivan, 2018, p. 402) was forcing them to apply in their setting, they had to refrain from its implementation even if they thought it was a powerful learning strategy.

Thus, in this case, qualifications mattered but up to a certain degree. Referring to Table 4.1 in Section 4.6.2 in the Methodology chapter, Miss Victoria had a degree specialising in ECEC while the others only had basic training. Miss Victoria knew about the practice of co-construction while the others were not aware of it. However, in this case, the argument in Cassidy, Buell, Pugh-Hoese and Russell (1995) that more qualified staff provide programmes of higher quality may not apply here because even though Miss Victoria had knowledge of the benefits of co-construction, she was still restricted from putting it into practice by other factors. In this case, it was the curriculum programme. This finding endorses the argument in Torquati,

Raikes and Huddleston-Casas (2007) that the working context may be the factor hindering educators from implementing practices to their highest level of ability.

5.5 Overarching Theme 4: Was the curriculum fostering children's thinking?

5.5.1 Observations.

The activities observed in the settings were all previously prepared by the educators. Three settings followed didactic instruction exclusively and their curriculum was based on specific detailed schemes of work on literacy and numeracy. All the activities were pre-planned during the previous summer holidays to the smallest detail by the educators; from the schemes of work to the activity plans to their respective handouts and templates. The three educators had three large files, one for each term, which although different, followed a similar structure. Here I describe what each file contained. One section contained detailed schemes of work for literacy and numeracy, indicating the exact sequence of letter sounds and numbers or number skills the children were to learn throughout the year. These schemes were given to them by higher authorities beyond the school's administration. Another section comprised the long term and medium-term plans. The long term plans spread out the schemes of work for literacy and numeracy over the scholastic year. There were three medium-term plans, which divided the long term plan into three scholastic terms and included other activities in relation to religion and physical education. The medium-term plans were each divided into three sections representing the three months of the term and indicating a particular theme that the KGE was going to do in each month. The common themes among all three were Christmas, Food, Weather and Easter. The following section contained the activity plans of one of the terms. They were plans which were used year after year and each was followed by the handout or template that was used as a resource.

In the other remaining setting, Miss Victoria organised a special Circle Time at the end of a topic to identify the next one. I observed one of these sessions, during which she gathered the children as a group to discuss what was interesting them at that particular time and listened to what the children said. Every child was given the opportunity to mention something and based on what she listened to, she picked out a topic. She asked everyone in a general way, what they thought about it and what they would have liked to learn about it. These ideas were then written or drawn on a chart in the form of a web. The activities held during the following days were based on the ideas mentioned by the children. For instance, during the Circle Time that I observed, the chosen topic was The Sea. Consequently, Miss Victoria planned numeracy and literacy activities to teach the letter sound and the number skills that were specified to be learnt by the children on the scheme of work using sand and seashells. All the handouts used during the topic featured themes related to the sea and the crafts were related to the sea as well. Thus, her files showed activity plans that reflected the sequence of letters and numbers indicated on the schemes.

Throughout my observations, I noticed several instances across the four settings which could have been taken as clues by the educators, particularly the KGEs, to develop an emergent curriculum from the inquiries of the children. However, this did not happen. Instead, the educators reacted to these instances differently. Here, I present an example from each setting to describe their different reactions.

In Rebbiegħa Setting, every day started with the morning routine. The children said the prayer, sang a song, repeated their names, looked at the calendar to set the date and finally looked at the weather chart on which Miss Melita changed the arrow to indicate the weather of the day. Miss Melita first invited the children to look at the sky and then asked them to say what the weather was like. During one of the observations, it was quite cloudy and the sun could be seen

intermittently. When Miss Melita asked the children what the weather was like, three children said that it was cloudy. Sunrays could be seen beaming through the clouds and one of the boys, Edward, looked puzzled. He asked his KGE: “*What happened to the sun?*” (Edward, 7th Obs.). Upon receiving no direct answer, Edward kept on insisting by asking the same question several times. In the meantime, Miss Melita was saying that it was cloudy and asked the children to repeat after her. When she saw that Edward kept on repeating his question, she told him: “*Ok, now stop. Don't worry Edward the sun is fine. Look!*” (Miss Melita, 7th Obs.) while pointing her finger to the picture which was linked to the next activity she had in mind.

During the Show and Tell activity in Sajf Setting, one of the chosen three children got a unicorn from home to show it to her peers and say something about it. Miss Philippa asked the same three questions to her as she had asked the others before her and then, Petra, turned to the teacher and said: “*But my grandpa's horse does not have a horn and its mane is not pink. Why?*” (Petra, 2nd Obs.). Miss Philippa answered her immediately, raising the tone of her voice, maybe to be heard on top of the voices of some children who attempted to answer Petra's question, saying that unicorns did not exist in reality since all the real horses looked like her grandpa's.

In Harifa Setting, during the first set of observations, the chosen theme was related to the sea and I observed a storytelling session during which Miss Miriam read a book called *Under the Sea* by Anna Milbourne and Cathy Shimmen. Miss Lucy was sitting near the child she supported. Showing two particular pages illustrating the dark sea, this is how the conversation developed:

Miss Miriam: *Fish sleep at night like us. Ann put up her hand.*

Ann: *No, they don't. They sleep in the morning so that they would be healthier.*

Miss Miriam repeated her statement in the same tone. Promptly, Ann put up her hand again and repeated the same words. Then, Miss Miriam looked at her and asked her:

Miss Miriam: *And what do they do at night?*

Ann: *They sleep again.*

Miss Miriam looked unsure and there was a short pause. Miss Carmela intervened looking at

Ann:

Miss Carmela: *No! All the time sleeping? It can't be. Can't you see that it can't be?*

Miss Miriam repeated, in a more persuasive manner:

Miss Miriam: *Fish sleep at night.*

Ann did not intervene again.

(Harifa Setting, 5th Obs.)

In the fourth KG setting, the children were painting pasta to make a necklace with a pendant with 'n' written on it. /n/ was the sound of the week. Miss Victoria worked with three children at a time, while the others were occupied with a handout to practice writing 'n' with paint with Miss Rosaria. To write the 'n' on the pendant, Miss Victoria allowed the children to choose the colour they preferred from a large set of markers. Zayne, who was one of the first three to finish the necklace, finished the handout in no time and was getting irritated sitting down doing nothing, looking around. Miss Victoria's markers caught his attention and he went to touch them. Miss Victoria allowed him to remove the caps and he started to put them on his fingers, which he started to move as if they were claws. He went back to his place and continued to move his fingers in the same manner in front of the children in his group while Miss Victoria was watching him the whole time. Miss Victoria smiled at him but did not speak to him. Afterwards, she turned to me and told me that during that period, Zayne was fascinated by tigers and even his mother had told her so, when she went to pick him up after school. She added that she had to

ignore his interest since she had finished the theme on animals and was currently working within the theme of the sea.

5.5.2 Headteacher.

The findings of this section are based on the raw data in Appendix M. Table 5.7 presents the theme vis-à-vis the code and node under which the raw data was coded in Appendix M.

<u>Theme</u>	<u>Coding</u>
Existing curriculum programme	‘Current curriculum programme’ under the node ‘Current policies and official documentation’
Emergent curriculum	‘Emergent curriculum’ under the node ‘Practices to foster thinking skills’
IBL	‘IBL’ under the node ‘Practices to foster thinking skills’
Project Approach	Node entitled ‘Project approach’ with four child codes: ‘General perception of project approach’; ‘Project approach and creative thinking’; ‘Project approach and critical thinking’ and ‘Project approach and metacognition’

Table 5.7: The themes vis-à-vis the code and node under which the raw data was coded in Appendix M.

On the existing curriculum, the Headteacher said that the KGEs planned their programmes according to the schemes that were passed on to them from higher authorities. She did not give a direct clear-cut opinion on whether she approved of such schemes or not and her comment was:

I think that if the programme handed to us from outside is built on enabling the children to develop in all domains, then yes, it is good. If it is not enabling the children to think, then it is not, it has to be revised.
 (Headteacher, 1st Int.)

Reflexive Box: 6

“... From experience as an insider and as an educator, here, I can perfectly understand my Headteacher who is avoiding to take a position. Perhaps it is due to our local context or to her vast experience of sending feedback to policymakers to no avail. However, I feel that as a curriculum leader, I have to ensure that this study, even though small-scale, will contribute towards making a difference in our ECEC in order to enable our children to become smart thinkers.”

The notion of the emergent curriculum was new to the Headteacher, thus, it had to be explained. Her response was:

*Yes, I like the concept. It is what is needed if we are after holistic development if we are looking beyond basic numeracy and literacy if we want to make them think. Having a programme that enables the children to think, without knowing, the child develops the skills that are so important in life. Definitely, in every aspect. Mentally, socially, in all aspects of life. If the child is helped, he can develop these skills, but if you hinder him if you suffocate his ideas, he stops there.
(Headteacher, 1st Int.)*

Regarding IBL, the Headteacher remarked that she was familiar with that concept. She was entirely in favour of its application in the KG settings because she said that in education, it is crucial to base understanding and conceptualisation on real-life experiences. The Headteacher explained her argument by stating that “*if you are teaching plus, you need to give him (the child) things that he uses in real life*” (Headteacher, 1st Int.). Moreover, she added that IBL can give the children the chance to connect what they learn at school to what they encounter outside by asserting that if the KGE teaches about plants by getting her children real plants into the setting, they can then remember what they have learnt when they go with their families for a walk in the countryside. The Headteacher emphasised that what the children needed was concrete experience and not pictures on handouts. She claimed that this was easily done since most of the things mentioned in KG settings were things the children encountered in their everyday life and therefore, this was not so impossible to do. The Headteacher added that the KGEs could even

take them on outings such as nature walks so that the children can “*actually feel*” (*Headteacher, 1st Int.*) what they were learning about in the setting.

With regards to the project approach, the Headteacher said that she had heard about it from the circulars issued by MEDE but it was never discussed in any meetings held for Headteachers. She said she thought it was a new pedagogy for early years but could not express an opinion on its effectiveness since, up to her knowledge, it was not practised in the settings of the annexed KG schools. Referring to Miss Victoria, who was the only KGE with a degree in ECEC, the Headteacher said that she presumed that she was the only one to implement it.

Thus, the approach was explained using the slide presentation that I had previously prepared and throughout my explanation, she continuously remarked that this was exactly what she was referring to. One of her remarks depicted her thoughts clearly and strongly:

Yes! This is it when I say we should move away from handouts. This is the approach that is so much needed if we want them (the children) to think. Hands-on ...experiments... this is what helps to develop thinking, not pictures on handouts. They (the children) need to understand by doing. Our KGEs should use this approach as it is indeed beneficial for the children's thinking skills development.
(*Headteacher, 1st Int.*)

She claimed that in her opinion, the project approach would empower the children to foster critical thinking skills and they would, by time, be able to, “*spontaneously*” (*Headteacher, 1st Int.*), start questioning the underlying meanings and hidden agendas behind other people's comments.

Moreover, she also associated it to creative, high-quality thinking and metacognition:

...they would be developing their creativity, indeed, they will be encouraged to be creative because they know they can try out their ideas. They can check whether their ideas work and learn from them. So, they would think on a higher level, a level that I, as an adult,

expect from them. This approach to learning will enable them to have a more positive attitude towards learning because they will be more confident.
(Headteacher, 1st Int.)

While discussing the project approach to an IBL pedagogy and its link to an emergent curriculum, the Headteacher commented that at that point she had a clear picture of how these strategies could be implemented with KG-aged children. When asked for her opinion about whether it could be implemented by the educators within their context, she answered in the affirmative but then expressed her concerns with regards to the extent they would be able to translate it into practice. She asserted that the educators needed training and even time to assimilate the new practices because *“they are used to having a syllabus and cover just that.”* (Headteacher, 1st Int.).

5.5.3 Educators.

As explained earlier, in the four FCs, there was the initial general agreement that their programme was enabling the children to think. Upon further discussion, it was revealed that with the term ‘thinking’ they were understanding assimilation of content knowledge, and once this was explained, opinions started to change, as explained in section 5.2.2 on Activities and Tasks. Miss Carmela said that they sometimes involved the children in discussions. In the same FC, Miss Miriam asserted that they organised interesting activities for them. However, in the four FCs, all educators, at one point or another agreed that their programme was highly focused on literacy and numeracy and that thinking was not being given its due importance.

The conversations then turned into a discussion on what they would have liked to do to encourage the children to think more. In their FC, Miss Carmela and Miss Lucy proposed starting by giving the children small choices to make. However, all the remaining participants in the four FCs did not give any suggestions, the shared motive being that they had never received training on thinking; always on numeracy and literacy. For instance, Miss Dolores said that she

did not know how to foster children's thinking as there was never an opportunity to attend a course on the topic. Miss Melita agreed to this and said that in the course she had followed to become a KGE, thinking was mentioned a few times but they had not entered into how to foster it in practice. Miss Philippa stated that this was the first time they were discussing thinking since she did her course back in the 1980s. Miss Nina added that she would have liked to get trained in how to help the children learn to "*think outside the box*" (Miss Nina, 1st FC). She felt that training was needed since they were used to traditional practices. She added that it was difficult for any educator to engage the children in thinking without being trained because for her, in thinking, "*it's the other way round, you have to start from them*" (Miss Nina, 1st FC). Although as said earlier, Miss Miriam and Miss Carmela mentioned two ways in which they said they were fostering children's thinking, there was also a consensus that they needed support in this area. Miss Carmela commented that she felt that they were still lagging when it came to such skills and Miss Miriam added that they had to work more on thinking to help the children with low self-esteem to start believing in themselves. Miss Carmela, who was also doing a course similar to the one attended by Miss Dolores, remarked that the focus in her course was again on numeracy and literacy. The same reaction emerged as both Miss Victoria and Miss Rosaria said that they had never attended a seminar specifically on how to foster the thinking of children in early years. Referring to the course she did to become an ECEC teacher, Miss Victoria said that thinking was only discussed in some of the psychology modules in relation to the theories of Piaget and Vygotsky. She said that as far as she could remember, they had never done any module or assignment on the fostering of thinking in children in actual practice.

Subsequently, the conversations shifted on the notion of the emergent curriculum. No one had ever heard of the concept except for Miss Victoria. Although taking part in different FCs, Miss Melita, Miss Philippa and Miss Miriam had the same reactions. They were willing to

learn about the concept and to give it a try. However, they were concerned about the setback that they were going to have in their schemes due to the projects. I assured them that they had nothing to worry about because it was going to be discussed in the workshops and that I was going to be there in the settings to support them throughout the projects. They told me that they trusted me as I was their leader and that meant that they had their mind at rest that no one was going to say anything if they lacked behind on their schemes. Moreover, they also asserted that since I was pursuing a doctoral degree specialising in Early Years I knew what I was doing.

With regards to Miss Victoria, she affirmed that although she believed in the usefulness of the emergent curriculum, she had not been able to apply it in practice. The reason was that she had to follow the sequence of the content on the schemes like the other KGEs since these were in line with the criteria indicated on the assessment reports. Thus, she said she found a “*compromise*” (Miss Victoria, 1st FC), which was that of eliciting the themes from the children during Circle Time and then adapting the concepts that she had to teach according to the schemes to that particular theme. Giving the example of the theme on Animals, that she had recently done, she said that she taught the children the sound of the letter ‘t’ and comparisons in height using animals as resources, handouts with animals and so on. She maintained that she knew this was not the way she was taught in her course, but she felt she couldn’t do it in reality because the schemes and the assessment report determined what and by when the children had to learn specific content.

The same reactions were achieved as regards the project approach to an IBL pedagogy. It was only Miss Victoria who knew about the approach and as for the emergent curriculum, she claimed that she had not been able to put it into practice for the same reasons. The remaining KGEs said that this concept was new to them since they were used to teach according to the way

they were taught. However, they were still willing to try out the new approach for the same reasons they gave with regards to the emergent curriculum.

Reflexive Box: 7

☐ ... Considering the importance thinking is given in the policies, it is perplexing that both KGEs and LSEs, regardless of the course they have attended, confirmed that they have never received any training on enabling children to cultivate their thinking!! The gap between the policies and actual practice, which is still dominated by the issue of school readiness surfaced once again. I am hopeful because their comments suggest that they are sensing the need to explore ways that benefit children's thinking. A common factor that I noticed among Miss Melita, Miss Philippa and Miss Miriam, was that at one point or another of their FCs, they referred to the fact that I was researching in ECEC. The way they expressed themselves suggested that they were pleased because they felt that I was giving importance to their years. I think that this could be another reason behind their assertive decision to take part in this research. Their comments denote that they are looking forward for the intervention as much as me.

5.5.4 Discussion

The above supporting evidence continues to substantiate the argument that all the educators were following a prescribed curriculum. Even though Miss Victoria was setting up a specific Circle Time to elicit the interests of the children, she still did not enable them to develop on their own inquiries because the only element that was being chosen was the theme. She still had activity plans that followed the same structure of the schemes like the other three KGEs. Thus, she was implementing a thematic approach rather than an emergent curriculum (Sheerer et al., 1996). Therefore, it seems that the interests of the children were not being translated into an emergent curriculum and no project or experiential activities seemed to be designed with the purpose of addressing their interests (Hyun & Dan Marshall, 2003).

The four vignettes described in the section on observations demonstrate that even within instructional pedagogy, there were some opportunities which the educators could have exploited

to foster thinking in children. When the educators were confronted with an unexpected question from the children, they reacted differently, yet, none of them took advantage of the situation to address the inquiry of the children and enable them to think. As for Miss Melita, she first tried to ignore Edward's persistent question and then hijacked his interest as indicated by Peters and Davis (2011) by drawing everyone's attention to the next activity that she had planned to do. In the case of Sajf Setting, Miss Philippa gave Petra an immediate answer in a higher tone of voice. Such reactions confirm that challenging questions tend to be avoided and answered by a direct answer immediately by the educator (Areljung & Kelly-Ware, 2017). Moreover, her tone of voice may indicate that she wanted the child to get the underlying message that she was the educator and therefore, it was her answer which counted the most (Areljung & Kelly-Ware, 2017). In the third setting, there was a power conflict between the educators and the child. When Miss Miriam paused, she showed that she may have felt threatened in her position of power as she was not able to give a direct answer to Ann since she did not know. The intervention of Miss Lucy continued to define the roles in the setting, doubting the opinion of the child not according to facts but by putting her in a submissive position. The reaction of this educator seems to imply that since the child was still young she did not know what she was saying and thus, the KGE's version had to be necessarily better (Areljung & Kelly-Ware, 2017). Referring to Miss Victoria, it could be said that she may have felt helpless in that situation. She wished to enable Zayne to develop on his interest in tigers but felt constrained by the outcomes she had to meet. Thus, regrettably, as is happening to many ECEC educators due to such pressures, she had to overlook Zayne's interest and proceed with her pre-established plan (Brooks & Murray, 2018).

The Headteacher was aware that the KGEs planned according to the programmes that were given to them from higher authorities. In the verbatim quotes used in previous sections, it became evident that she felt that the children had limited opportunities through which they could

cultivate their thinking. However, when presented with a direct question on what she thought of the assessment reports and programmes that were planned by higher authorities, she avoided giving a direct reply. Her comment may reveal the pressure that is exerted on school leaders by external authorities to ensure that policies are enacted, placing them into a position to adopt a managerial role rather than a leadership one (Cuban, 1988).

Resembling the majority of the educators, the concept of the emergent curriculum was new to the Headteacher, who was in favour of the approach and linked it to the cultivation of thinking. Regarding IBL, she connected the concept to experiential learning. For her, its use in the setting was that of enabling the children to connect what was learnt at school to what they encountered outside. This reflects the constructivist perspective of IBL, which looks at the process as a systematic procedure in which each child, in his own way follow and explore his personal interests (Bruner, 1966; Pedaste et al., 2015; Piaget, 1950). This assumption overlooks the social and cultural interpretation of IBL, which perceives learning as the outcome of collaboration and intersubjectivity (Dewey, 1938; Göncü, 1993).

The Headteacher's comments on the implementation of the project approach to IBL seems to continue to confirm her opinion that much depended upon the educators' willingness and ability. Since Miss Victoria had finished her studies recently and had the highest qualification, the Headteacher assumed that this educator was implementing these strategies in her setting. As for the others, she believed that they did not because they were used to follow the "*syllabus*" (*Headteacher, 1st Int.*). In her comments, for the first time she recognised that besides the educators' initiative and competence, they have to be provided with training, which was an issue that depended on her as a school leader. As argued by Garvey and Lancaster (2010), school leaders have to enable their educators to develop by providing training and professional

development opportunities that would allow them to keep up with new approaches and implement them effectively in the settings.

In light of the evidence, it may be concluded that the lack of cultivation of thinking in these settings was mostly due to the prescribed curriculum that the educators had to follow. The four KGEs were all concerned about fulfilling the outcomes in the assessment reports. However, their uneasiness was animated by different causes. In the case of Miss Melita, Miss Philippa and Miss Miriam, it appears that their apprehension was influenced by discourses that stress that their role is to prepare the children for formal learning by ensuring that they would tick all the items on their schemes of work (Elwick, Osgood, Robertson, Sakr & Wilson, 2018). In contrast, Miss Victoria, was not concerned about this because she knew that outcomes could still be fulfilled through the implementation of the emergent curriculum and IBL. She was burdened by the fact that she had to proceed through the scheme in tandem with the others and overlook the practices she learnt in her course. Thus, here qualifications and training made a difference because Miss Victoria had the knowledge of appropriate ECEC practices (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter). It can be argued that even though she had been working for nine years as KGE, she still experienced a “reality shock” (Veenman, 1984, p. 143) after completing her course. In a similar way to the participants in Mahmood (2013), Miss Victoria was trained differently from the other KGEs with the consequence that her philosophy clashed with that of the others. She was still distressed with the “conflicting demands between ideal practices and the reality of practice” (Mahmood, 2013, p. 164).

Referring specifically to the training on the fostering of thinking, however, presents a different scenario as it sheds more light on the training of KGEs. Miss Melita, Miss Philippa and Miss Miriam asserted that they never received training related to the fostering of thinking and Miss Victoria claimed that during her five-year course, thinking was only mentioned in relation to

psychology. In this case, the variance in qualifications did not make any difference (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter). In view of the emphasis found in Maltese policy documents (MEDE, 1999; MEDE, 2012; DQSE, 2015) on the fostering of thinking, which was debated in Chapter 4, this finding demonstrates that on a national level, the training for ECEC educators may not be closing the divide between policy and practice (MEDE, 2013b). This is further enhanced by the assertion for all four KGEs that given the national and sectorial emphasis on literacy and numeracy, the professional development offered to them was always in relation to these areas.

On account of these arguments, the absence of opportunities for the children to cultivate thought was not ensuing from lack of initiative from the educators. On the contrary, they were willing to learn how they could ameliorate their pedagogical practices and this was also confirmed by their eagerness to participate in this research. Their willingness to learn was also encouraged by the assurance that any changes they would implement were going to be backed up by someone they could trust who was in a more powerful position. This consideration continues to highlight the significant role that school leaders have to play in supporting educators in the implementation of educational reforms (Fullan, 2014).

5.6 Conclusion

To sum up, it is evident that instructional pedagogy dominated the settings, influencing and limiting their social climate. Conversations were not enabling the children to cultivate their thinking since they were highly structured and consisted mostly of close-ended interactions. New knowledge was transmitted from the educators to the children rather than co-constructed according to the inquiries of the children. The prescribed curriculum focused on content accumulation rather than understanding. In Chapter 6 and 7, the findings of the second research question are presented and debated.

Chapter 6: Paving the Way towards the Cultivation and Advancement of Thinking

6.1 Introduction to Chapter

Having answered the first research question, I now focus on the second research question, which is:

How and in what ways has the intervention, which used the project approach to inquiry-based pedagogy advanced the thinking skills of these learners?

In the introduction chapter, I explained that this research question is answered from two standpoints. First, I consider, the ‘how’ aspect by analysing the changes that were effected in the settings with regards to pedagogy, interactions, acquisition of new knowledge and curriculum in order to create optimal learning environments in which the learners could be empowered to think. Thus, in this chapter I answer the first subsidiary question:

i. How were the pedagogy, interactions, acquisition of new knowledge and curriculum practices transformed in the settings in order to advance the thinking skills of the learners?

To answer this question, I present, analyse and discuss evidence gathered from the observations conducted throughout the intervention, the second FCs with the educators and the interview with the Headteacher. I also refer to the workshops and the informal discussions that I had with the educators at the end of observation during the implementation of the projects.

Following the same structure implemented in Chapter 5, the findings, grouped under ‘Observations’, ‘Headteacher’ and ‘Educators’, are reported and analysed under each of the first four overarching themes illustrated in Figure 4.12 in the Methodology Chapter, which are ‘Pedagogy’, ‘Verbal Interactions’, ‘Process of Acquisition of New Knowledge’ and ‘Curriculum’. The titles of the subsequent sections indicate their focus and content.

Before I begin my argument proper, I have to disclose that the intervention has yielded positive findings. Nevertheless, it is imperative to remind the reader that this was an interpretative small-scale research conducted in two schools with a particular and similar context. Thus, rather than interpreting the findings as an end in themselves and inflating their significance, I deemed it appropriate and ethical to consider them as the first steps towards the creation of a pedagogy of thinking in these schools. As in Chapter 5, reflexive boxes are inserted to voice my own reflections and accentuate the course of change towards a pedagogy of thinking set in motion by this intervention. In the final section of this chapter I reflect and interpret the process of change of the KGEs in light of the Theory of Change, discussed in the Methodology (Section 4.9).

Similarly to Chapter 5, two tables are presented as examples to demonstrate the precise linkage between the raw data and the findings. Table 6.1 is an illustration for the data that emerged from the observations of the second data collection phase. It depicts the direct connection between the raw data and the findings presented in Section 6.2.2.1. Table 6.2 serves as an example for the data collected from the second set of focused conversations. It represents the specific linkage between the data and the findings presented in Section 6.5.3.

A summary of the findings is presented here, at the beginning of the chapter to indicate the results achieved and the areas that require further attention in relation to each theme (Figure 6.1). Such findings will be illuminated better as they are contextualised and supported with evidence in the remaining sections of the chapter.

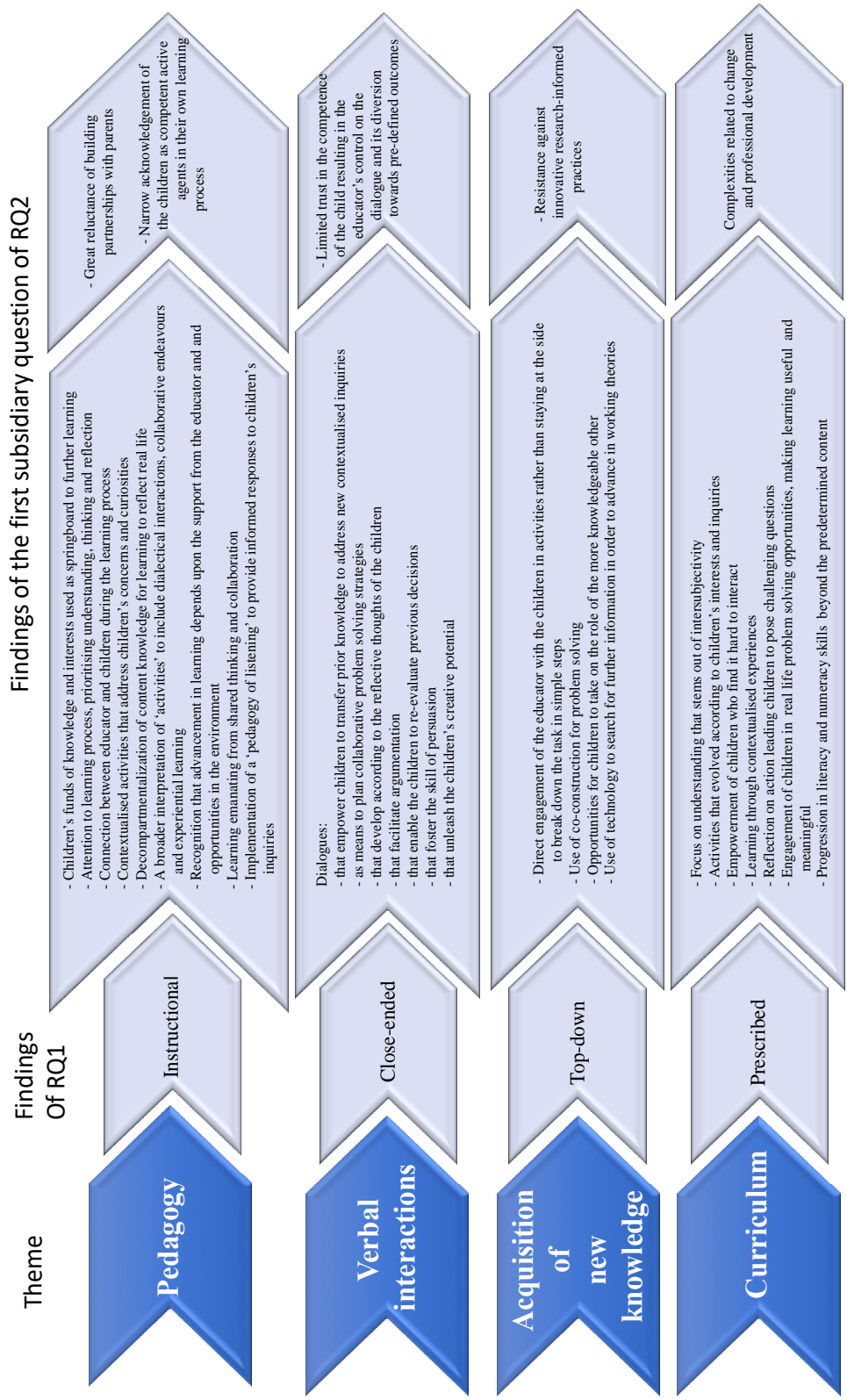


Figure 6.1: Summary of findings related to the 1st subsidiary question of the 2nd research question indicating the achievements obtained by the intervention and the areas that require further attention

6.2 Overarching Theme 1: Towards the Creation of Relational Pedagogy

To provide a detailed description of the findings and their interpretation related to the first overarching theme of ‘Pedagogy’, this section is again divided under the five subsidiary themes as illustrated in Figure 4.12 in the Methodology Chapter and as in Chapter 5. The section titles signpost the focus of the discussions.

6.2.1 Subsidiary Theme 1: Creating a social climate that favours children’s thinking.

6.2.1.1 Observations.

The application of the project approach to IBL catalysed a significant modification in the pedagogical approach. Nevertheless, since the children were always used to instructional pedagogy, I noticed that in the first two days of the projects, they were rather hesitant to start sharing their thoughts; as if they were testing the waters even if they were assured by their educators that this was what they wanted them to do. Gradually, the children began to talk and to interact about what they were doing in a more relaxed way, especially when they started to perceive the relevance between their own lives and the tasks they were doing at school.

Although the settings were quite small, the furniture was adjusted to facilitate group work and the mobility of the learners between the working stations that were set up. When the children entered the settings in the morning, they found learning provocations and resources related to the project they were developing and their educators encouraged them to play with them. I noticed that as the projects developed, there was less need for the educators to remind the children to go and explore the learning invitations, as spontaneously, some of the children joined their peers who have arrived earlier and continued to work on what they have left the day before. Others were noticed looking through books and cards associated with their project and others were observed playing with new learning provocations that were added daily according to the emerging inquiries of the children that were noticed by their educators. Upon seeing the children

playing with resources in relation to the project or engaged on an unfinished task, the educators spontaneously started to interact with them far before the prayer (Figure 6.2). Practically, the only time that was entirely not related to the project was prayer time.



Figure 6.2: Settling-in Time

In addition, the attitude of the educators did not alter between on-task and off-task times. Since the learners were active and engaged, there was no need for their educators to remind them to pay attention authoritatively. Instead, educators started to use dialogue as an alternative way to direct them back to the task or get to know about what the learners were concerned about. As a result, the atmosphere which was calm and conducive to learning enabled the children to put their thinking skills to work in order to pursue their inquiries.

Another change in the attitude of the educators was the more frequent use of praise and encouraging phrases such as “*Good job!*” (observed in Harifa and Xitwa Settings), “*I know you can do it!*” (observations in Xitwa Setting) and “*Come on, think!*” (observed in the four settings). I noted that when these or similar phrases were used by the educators, the children persevered in their working theories and in most cases, accomplished the task independently. For instance, while exploring which two colours make pink in Rebbiegħa Setting, the educators kept on encouraging the children to proceed in their endeavour until the mixture was discovered.

Furthermore, the educators interacted much more with the children while the latter was engaged in tasks and encouraged group work and discussion between the children. As a result, the educators captured the interests of the children and could provide the resources and the guidance that were needed to address these interests. To clarify my point, I refer to the instance when in Ħarifa Setting, the children got fascinated with the discovery of the seeds inside the fruit. Such discovery led some of them to ask their educators if other different types of fruit seeds existed. Thus, educators guided them in their search for different types of fruit seeds on the internet and brought more different fruit the following day for the learners to explore.

Another interesting observation was that the change in the settings' climate enabled the learners to share their own experiences which were to serve in the accomplishment of the shared common goal. For instance, in Xitwa Setting, when it was agreed to build their mobile train, Tiago, a non-Maltese boy, who was well integrated and who communicated very well in English, narrated to his peers about his experiences of trains. He told his KGE and his peers that he had to explain to them how a real train was if they were to build one because most of them had never been on a train. His peers were all ears when Tiago told them his stories and descriptions. They were even observed, in the successive days, consulting with him on certain aspects of the train during its construction. Another similar experience was observed in Sajf Setting when the learners were informed that they were to attend for Bella's party in Rebbiegħa Setting. Three girls told Miss Philippa that they never went empty-handed to a party. Miss Philippa involved the whole group in a discussion and one of the girls suggested that they could prepare some healthy food items, an idea which all the other learners liked. Another girl called, Alison said that they could do wraps because her mother prepared them frequently and told her they were healthy. She said that she knew how to do them and on the day of the party led the children in her group in the preparation of the wraps, which had to be as colourful and creative as possible (Figure 6.3).

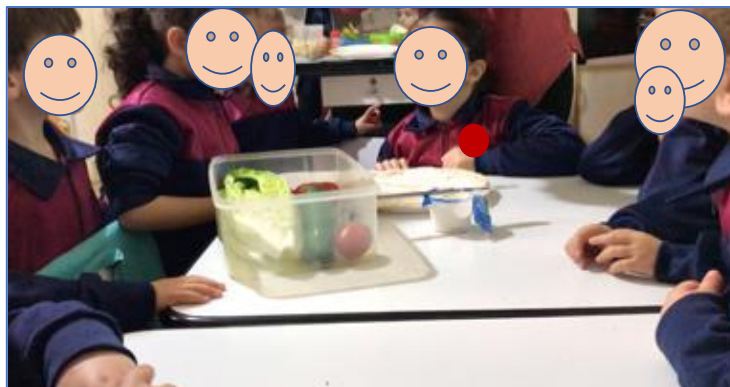


Figure 6.3: Alison explaining to her peers how to do the wraps

6.2.1.2 Headteacher.

During the second interview, the Headteacher commented that from the photos she could see the learners and their educators working together in a “*less rigid*” (Headteacher, 2nd Int.) environment than before and that this was the atmosphere she wished to see more practised in the KG settings.

6.2.1.3 Educators.

During our informal discussions, the four KGEs commented that they liked the atmosphere that was being created in the settings. A common comment was that this new climate was unveiling the thinking potential of the children. When I asked the KGEs directly if they were worried about the curriculum requirements, Miss Victoria claimed that she was sure that there would not be any problem because she was trained to develop projects with children. Although the other three KGEs told me that they were less hesitant than before, I could sense that the matter was still preoccupying them. The three of them wanted me to continue providing them with the support they needed throughout their projects.

At the end of each project, I held the second FC with the educators concerned. Having experienced the projects, the educators said that they preferred the atmosphere that was created in their settings as they were less bound by specific scheduled timetables and consequently learning

flowed seamlessly. Miss Melita commented that this learning climate permitted the children to remain engaged in their tasks and thus, the children's thinking processes were less interrupted. Miss Rosaria stated that she had "*seen the children thinking*" (Miss Rosaria, 2nd FC).

6.2.1.4 Discussion.

In Chapter 5, it was argued that the settings embraced instructional pedagogy, that as outlined by Peters (2009) lays its emphasis on content knowledge. Miss Melita, Miss Philippa and Miss Miriam considered the teaching of content as their ultimate aim and as discussed by Wood (2014), it is of concern that early years educators continue to give excessive attention to the prescribed curriculum. However, upon hearing the motivations underlying their reasoning, it was evident that their reaction was due to the fact that they felt obliged and constrained by the system to act in that way (Murray, 2017b). In fact, they perceived it as the yardstick with which they were judged professionally by the teachers in the primary. Although Miss Victoria did not consider academic content as the principal aim of ECEC as the others did, she still felt obliged to teach through instructional pedagogy due to the cultural context. Thus, it was not that they faithfully believed that the teaching of content was the crucial purpose of the kindergarten years. However, even though they were forced to adopt that position, they still felt the need to learn how they could improve the quality of the programme they were offering since they all wanted to take part in this research.

Investing in relationships between the educators and the learners as advocated by Papatheodorou (2009) had direct effects on the climate, which could be felt upon entering the settings in several ways. First of all, the changes in the setup of the settings facilitated the dynamics of project work which necessitated collaboration, interactions and work in groups. Secondly, getting to know the interests of the children, enabled their educators to supply them with learning provocations to stimulate their curiosity all through the projects (Nimmo, 1998).

Providing the children with thought-provoking resources was very important to allow the children to pursue their working theories (Hargraves, 2014). Thirdly, the educators referred to what they knew about the children while engaged in conversation with them, intending to further their learning as asserted by Hedges and Cooper (2014). Moreover, the learners' funds of knowledge (Moll et al., 1992) were becoming more valued and celebrated as will be described in the coming sections with reference to Tiago, Martina and Mark. Fourthly, the educators became increasingly aware and recognised the benefits of connecting with their children during the learning process since through group dialogues they could easily perceive and address the particular needs of the children (Crownover & Jones, 2018; Luff, 2009). Fifthly, the children were observed absorbed in the task at hand. There were far fewer instances during which an educator had to prompt a child to focus on a task.

A salient reflection that can be drawn is related to the leadership role in sustaining such changes. The educators were willing to preserve this type of climate in the learning environment as they felt that it was more conducive to learning but their comments implied that it did not depend solely on them as they felt that they needed the support of the Senior Leadership Team to be able to maintain it. On the other hand, the Headteacher felt that much depended on the educators. The literature indicates that leaders do not only have to sustain educators but in the first place, assume the responsibility of being the agents of change (Fullan, 2014; Harris, 2003). The recent paper by Schechter, Shaked, Ganon-Shilon and Goldratt (2018) clarifies this role by discussing interesting metaphors used by school principals to explain how they lead their educators when dealing with changes or reforms.

6.2.2 Subsidiary Theme 2: Enabling children to experience activities that stimulate their thinking

6.2.2.1 Observations

Table 6.1 is the first example in this chapter that aims at highlighting the precise linkage between the body of data and the findings. Focusing on the activities that stimulated the children’s thinking, this table specifies the setting, the observation, the activity, the category of thinking skills according to the protocol and the particular thinking skill that was stimulated.

<u>Setting</u>	<u>Obs. No.</u>	<u>Activity</u>	<u>Category of Thinking Skills (Protocol)</u>	<u>Stimulated thinking skill</u>
HS	19(HS-4)	Investigating the material gathered during fieldwork	Area 4	- investigation - curiosity for further exploration
			Area 5	- concentration - enthusiasm/motivation
SS	12(SS-6)	Responding to their developing need for more outdoor equipment in the yard	Area 3	- imagination - exploration of ideas
RS	9(RS-5)	Discussing what food to prepare for the party. Vignette 1: Jeanette’s insistence to prepare pizza Vignette 2: Martina describing how to make pizza to the others	Area 2	- reasoning
			Area 5	- perseverance
			Area 5	- enthusiasm/motivation - Risk taking
RS	11 (RS-6)	Preparing pizza Vignette: Martina as KO due to her FOK	Area 1	- identifying - sequencing
			Area 2	- reasoning
			Area 4	- curiosity for further exploration
			Area 5	- concentration - enthusiasm/motivation
HS	22(HS-7)	Creating things using wood Vignette: Georgina discovers shade	Area 3	- exploration
			Area 5	- concentration

Table 6.1: Linkage between the raw data from the observations and the findings for Section 6.2.2.1

In a similar fashion to the settings' climate, the nature of the activities changed significantly. During the projects, there were more opportunities for the children to work in teams towards a shared intention. Thus, during most observations, the children worked in small groups on different aspects of the projects and the input of each small group contributed towards the end product of the whole cohort. As a result, each group worked on a unique aspect of the project and there were no replicas of learners' work. The children were also allowed to change their group if their interest changed and wished to work with other children on a different aspect. As an example of such a situation, here I describe what happened after the fieldwork conducted by Harifa Setting children. From the fieldwork, the children gathered several pieces of wood, acorns, rocks, leaves and so on. The day after, some of the children separated these items in different containers and everyone could go around to touch and explore the items as they liked. Then, they were asked to select an item they wished to work on and groups were formed. Figure 6.4 illustrates the group exploring the soil. Each group, with the guidance of the educators observed, discussed and worked on its particular item and had to produce drawings of that item which then formed one fieldwork report.



Figure 6.4: The group exploring soil

Group work enabled the children to learn how to cooperate and work collaboratively. It took some time for them to get used to this idea and the most common reaction was having someone in the group who gathered all the resources in front of him, not allowing the others to touch them. Thus, especially at the start of the projects the educators had to clarify the meaning of group work and intervened when there was disagreement in the groups. Eventually, the children worked more harmoniously and were observed consulting with each other, taking turns and helping each other when a member of the group encountered a difficulty.

The children were given the chance to take major decisions throughout the project, which shaped the route of their learning process. To take the example of Rebbiegħa Setting, it was the children, as one whole group who decided about what items to include in the party, what presents they were going to give to Bella and what messages to include in the birthday card. As a result, such decisions determined the academic content that was integrated throughout the project that enabled the children to move on to reach their aims.

Most of the activities of the projects allowed the children to be creative and in some cases, their creativity surpassed the expectations of their educators. This was the case in Sajf Setting when the learners were discussing how they could embellish their schoolyard in order to include things that would enable them to be more active. They were highly creative as can be seen in Figure 6.5.

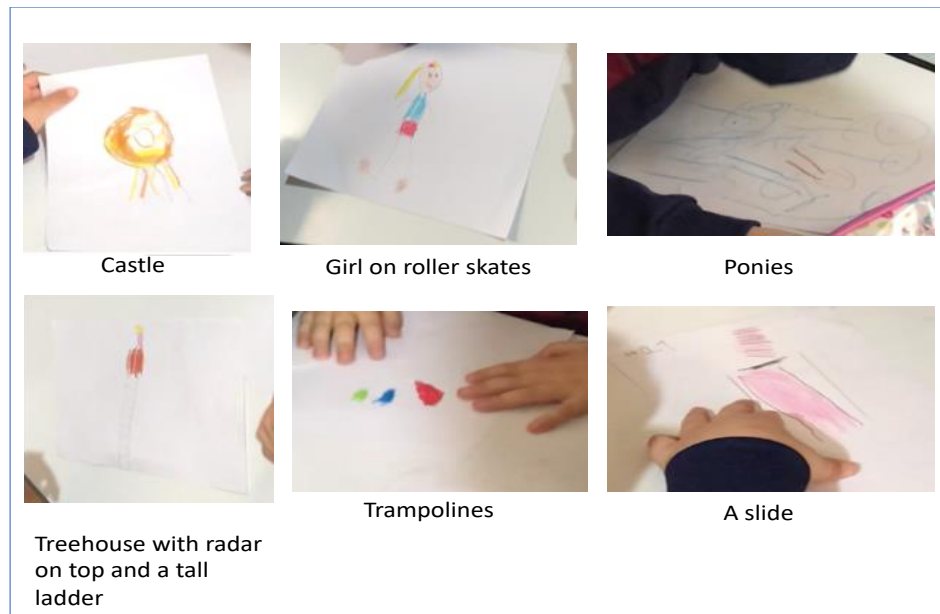


Figure 6.5: Children's drawings of the items they would like to have in the schoolyard

On some occasions, the children's funds of knowledge (Moll et al., 1992), were used as a springboard for additional activities to further learning. For instance, in Rebbiegħa Setting, Jeanette insisted that whenever she went for a party, she always ate pizza. The KGE asked the children if they agreed and if they knew how to make pizza. Unexpectedly, Martina, who was usually very quiet for the large part of the day, started to mention the ingredients and the toppings. When asked by Miss Melita how she knew all these things, Martina said that she made pizza with her mum every Saturday evening. The KGE encouraged her to describe the method and Martina described it step by step. The others were encouraged by both educators to mention anything that they would have liked to add. The day after, the educators got all the ingredients for the children to do the pizza. Martina felt very important on that day as she guided the other children throughout all the pizza preparation (Figure 6.6). With Miss Melita's help, the pizza was then baked in the school's kitchen.



Figure 6.6: Martina showing her peers how to open the pizza dough

In addition, the flexibility of the tasks, and the introduction of learning invitations and resources related to the projects opened the doors for further spontaneous exploration by the learners, and consequently, for further thinking. For instance, in Harifa Setting, while building a tree out of some craft material, Georgina discovered shade and signalled to the others and the educators to go and see the shadow she had on the table (Figure 6.7). The others got interested and this discovery led to a whole activity on shade.

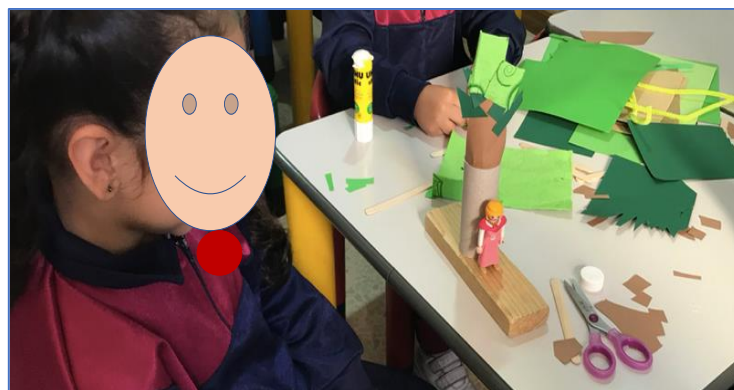


Figure 6.7: How Georgina discovered shade

6.2.2.2 Headteacher.

The Headteacher’s facial expression while looking at the photos and samples of learners’ pieces of work elucidated her satisfaction and approval. She added that:

This was the type of work that I was referring to in my first interview. You see? So, I'm right, they are capable and how! They can, only if their educators, know how to go about it and give them the chance.
(Headteacher, 2nd Int.)

6.2.2.3 Educators.

The collaboration and shared thinking generated by group work were two of the topics discussed in the four FCs as the educators were impressed by the children. They said that they did not think that the children would be able to work in groups on a common endeavour because they were used to work individually on their own piece of work. Miss Philippa asserted that she had expected her children to complain since they looked forward to having their handouts displayed in order to compare them. She said that group work lessened the element of competition, there was more harmony among the children and they told her that they liked to work together instead of on their own.

With regards to group work, Miss Melita claimed that she had always avoided group work for two reasons. The first one was that she had always believed that her learners were still young to work in groups and the second one was that parents always asked her to see what their children had produced independently. She claimed:

I have to say that now I look at things differently, through a different lens. I was surprised by how they worked together despite their age, reason together, plan together. I think that if we inform the parents as well, they would also be pleased to see that their children are able to work with others.
(Miss Melita, 2nd FC)

Miss Dolores, who was in the same FC, agreed with her and added that she was very surprised by the children's commitment to the project.

Referring to the child she supported in the setting who had autistic traits, Miss Carmela talked about how he was able to integrate within the groups he worked with and express himself. Miss Lucy, who formed part of the same setting and who supported two other children with special needs, agreed with her colleague. With regards to one of the children who had emotional difficulties, Miss Lucy said that she had seen a major change in her behaviour as she was able to interact better with her peers since she was given the chance to work on aspects of the projects that she liked.

Miss Victoria and Miss Rosaria said that they have never doubted the ability of the children to work together in groups on common tasks. Miss Victoria said that she was very happy that she had managed to implement the practices she considered to be effective.

6.2.2.4 Discussion.

The tasks and activities that were normally completed in the settings did not disclose anything about the children's thinking as they were all prepared beforehand by their educators and were not expected to be questioned by the children. Thus, they all formed part of what Dewey (1897) defines as the "preparation for future living" (p. 7) whose exclusive purpose is to prepare the children to become docile citizens to supply the demands of the labour force. To make things worse, the tasks did not challenge the children to think; the children just had to complete them.

In contrast, as recommended by Rinaldi (2006), project work was founded on the children's thinking that was observed in their actions and discovered through interactions between the children and their educators before the actual implementation of the projects. The projects emerged from the children's interests and were chosen in response to the children's

current concerns. Such process ensured that the real curiosities of the children were respected and not manipulated according to the educators' agenda (Peters & Davis, 2011).

The tasks that were accomplished during the projects revealed, encouraged and challenged the children's thinking. First of all, the term 'tasks' and 'activities' were no longer merely associated with work on paper but were given a broader interpretation to include dialectical interactions, collaborative endeavours and experiential learning (Dewey, 1938; Luff, 2018; Vygotsky, 1978). As from the start, the children were engaged in discussions and drawings to enable them to express themselves on what they would have liked to learn on the chosen topic. Thus, these activities helped them to practice information processing skills, to evaluate their prior knowledge and to engage in problem-solving strategies as they started to articulate new inquiries. Moreover, the tasks that formed part of the development phase of the projects stimulated the children to think about new inquiries as new questions continued to emerge. On certain occasions, they gave the children the opportunity to use their funds of knowledge (Moll et al., 1992) for the benefit of the shared enterprise, as in the case of Martina. In addition, these tasks enabled the children to engage in critical thinking as they had to logically figure out the process for their completion and to evaluate if the outcome they achieved was what they had desired. As a result, the tasks enabled the children to be creative as there were circumstances during which they had to find different courses of action and come up with imaginative ideas for situations they had never reflected upon, as in the case of the schoolyard in Sajf Setting. Examples of such instances are given in detail in the subsequent sections of this chapter and Chapter 7.

Empowering the children to learn through such inquiry-based tasks enabled the educators who were accustomed to interpret learning and thinking according to cognitive maturational and developmental theories to start the process of modifying the perception they had on the competency of the child. Whereas before the intervention, in Rebbiegħa Setting, Sajf Setting and

Harifa Setting, the educators used to prepare everything for the children, sometimes even accomplishing the whole task themselves because they considered them to be inexperienced and thus incompetent, they were now aware that with the appropriate direction the children were capable of shared thinking and of working together in a group on a “co-operative enterprise” (Dewey, 1938, p. 72). Even the educators who supported the children with particular needs acknowledged that their learners could still convey and apply their thinking. Thus, it would be fallacious to think that a child who has communication or behavioural difficulties has nothing to say or cannot contribute to the co-construction of knowledge because utterances can still convey meaning (Pramling and Säljö, 2015).

Enabling the children to follow their working theories, thus shaping their learning process, gave a meaningful dimension to the academic content that was instilled in order to enable the children to progress in their project. As clarified by Dewey (1897), assimilation is facilitated when the children perceive the purpose of their learning. For instance, in Rebbiegħa Setting, the children were interested in learning the academic content involved in the project because they decided what had to be included and they needed it to proceed on their interests.

The provision of stimulating resources as suggested by Hargraves (2014) together with sufficient unstructured playtime to explore what can be created with these resources as promoted by Wood (2014) led to further discovery as in the case of Georgina. Shade was not expected to form part of the project, yet the child did discover it. This continues to heighten the value of playtime, which gives the children the chance to ponder on what is happening around them (Wood, 2014).

6.2.3 Subsidiary Theme 3: Hooking children's interest to activate their thinking.

6.2.3.1 Observations.

For the first time, learning provocations and invitations were introduced into the settings. Across the four settings, I noticed that the initial reaction of the children was that of surprise which then transformed into curiosity as they approached the setups. I noticed that while approaching the arrangements, the children looked at their educators as if to get the approval before touching the materials presented. Given that the educators consented, the children enjoyed themselves exploring the various materials in the sensory bins. For instance, in Harifa Setting, where the initial learning provocation was set up in an important place in the setting and consisted of wood, leaves, pinecones and two elves, some children were observed touching the wood grain, others smelling the pine cones and others comparing the leaves (Figure 4.4). The educators joined the children and they engaged with them in conversations, from which they got ideas for subsequent activities. For example, they noticed that there were at least five children who were continuously passing their fingers over the woodgrain. From the conversation that Miss Lucy started with them, the educators got to know that these children had never touched tree trunks and decided on including an activity during the fieldwork.

Besides noticing an increase in the engagement of the children in hands-on tasks, there was also an increase in the children's sharing of experiences. A clear example to illustrate this can be taken from Harifa Setting. In one of the activities, the educators engaged the learners in a group discussion on how to take good care of trees. Some learners mentioned water but then Mark, added that water was not enough. He was encouraged by Miss Miriam to elaborate on this and he said that his father had a field and that he knew that their upkeep depended upon their type. One of the girls, Sophie, spontaneously asked him how he can get to know the type of the tree. Mark, quite confidently, explained that it can be done by looking at the leaves. He said that

his father did so and accordingly, he added a “*special colourful powder*” (Mark, 20th Obs.) to the water. Miss Miriam used questions to support him in elaborating on what he was saying, given the interest that this topic raised in the other children.

The engagement of the children in the activities made it possible for the educators to notice and identify the misconceptions and fragmented information that the children had and to plan subsequent activities and add learning provocations to enable the children to clarify them. An example of this was observed in Sajf Setting when some learners while washing their hands after a discussion on germs, started to ask Miss Philippa where tap water comes from. Thus, the question was added to the web and during the following Circle Time, Miss Philippa discussed it with the learners. Some of them mentioned the rain but Ana kept on insisting that it did not because she contended that upon getting in contact with the ground, the water gets dirty and thus, it cannot then be used for cleaning and drinking. Hence, for her, it came from somewhere else but she did not know from where. To respond to this inquiry, the educators started by showing videos to the whole group about the water cycle and asked the learners to talk about what they knew about the topic. Miss Philippa showed the children two short online videos that showed the water table system in Malta. She explained in simple terms how rainwater is filtered and purified to produce potable water. To respond to Ana’s query, the other educator managed to get some leaflets about the reverse osmosis plants in Malta and these were added to the learning invitations. Ana noticed these leaflets immediately and started to ask the educators what they were. In response, Miss Philippa showed all the children an online video illustrating how seawater is converted into drinking water in one of these plants. Ana got really interested in the topic and asked Miss Philippa if she could take a leaflet home to ask her parents to take her to these plants. In the following Circle Time, Ana was then invited to talk to the whole group about

what she had learnt and through this, the educators ascertained that Ana's fragmented information was now more complete.

Furthermore, the inquisitiveness raised by the projects attracted the attention of those learners who were previously observed to be the most passive in the settings. Referring to Sajf Setting, a girl here referred to as Angela, was usually laid back and was pinpointed by her educators as the one who was never interested in anything. However, Angela was highly interested during the experiments done during the projects especially the one conducted to discover which was the healthiest drink (Figure 6.8). She was one of those children who, every now and then, checked upon the eggs to see if there were any changes in the colour of their shell. Upon seeing this interest, the educators took every opportunity to engage her in a dialogue about her observations and challenged her to give her predictions about what was going to happen to the eggs.



Figure 6.8: Miss Philippa engaging Angela in a dialogue every time she approached the table of experiments

A compelling observation was that of the learners who had some limitation to interact with their peers and educators. They managed to express themselves and demonstrate what they were thinking. This was the case of Ruth, a girl in Xitwa Setting who had speech difficulties. During the first phase of the project, Ruth was observed to be very shy and greatly assisted by the

educators to accomplish any task. During Circle Time, she never put up her hand to give her input. Instead, she tended to sit behind the others and to fiddle with some small toys which she kept in the side pockets of her uniform. When it was her turn to speak, Miss Victoria tried to interpret what Ruth was thinking from the expression on her face.

Throughout the project, Ruth was still very shy and liked to stay by the side of Miss Victoria during discussions. In group work, she liked to join her close friend Tiago in the task he was engaged in and occasionally, led Miss Victoria by the hand to show her what they were working on. Miss Victoria commented that through this gesture, Ruth was sharing with her what she and Tiago were thinking. For instance, in one of the activities, she joined Tiago in the preparation of the small box that was to be attached to the front of the train to represent its engine (Figure 6.9). When the box was ready, Ruth grabbed Miss Victoria's hand and took her to the train to show her where she and Tiago have agreed that it had to be attached.



Figure 6.9: Ruth working alongside Tiago on the front of the train

6.2.3.2 Headteacher.

The Headteacher noticed the learning invitations portrayed in the photos and got interested in how such resources were used to encourage engagement, stimulate the curiosity and act in response to the learners' interests. Upon showing her the drawings of the learners, she

commented that they “*truly*” (*Headteacher, 2nd Int.*) portrayed how much they were inspired to think on a higher level than they were used to. She was also pleased with the samples of learners’ work which showed group effort. She continued to reassert that the learners can “*indeed surprise us, if only they are given the opportunity to do so*” (*Headteacher, 2nd Int.*).

6.2.3.3 Educators.

All the educators argued that this was the first time that they have seen the children sharing their thoughts and deciding in groups while working on tasks. In all the four FCs, the common reason was that the children were interested in what they were learning. Miss Melita elaborated on this stating that the “*children were immersed because they had a purpose*” (*Miss Melita, 2nd FC*). Throughout their FC, Miss Melita and Miss Dolores smiled at each other several times while relating how certain children who were usually very passive, were instead engaged during the project and the educators were sure that the children were going to continue to think and talk about Bella till the end of the year. Similar reasons were given by the other educators.

A noteworthy contribution was given by Miss Philippa who added that this matter had set her thinking. She remarked that her previous impression was that children were passive because they were hard to please. She was now becoming more conscious that it is useless to plan activities that she thought were interesting without considering the children’s interests and without giving the children a challenge that would set them thinking. She stated that she was really happy to see them so excited about their learning.

6.2.3.4 Discussion.

As for the climate and the activities, the children’s engagement changed once the interests of the children started to be considered as the starting point of the learning process and as the

educators supplied the settings with learning provocations to stimulate the children's curiosities on the project. The passivity generated by the sharp distinction between the time dedicated to leisure and the time spent on tasks was drastically reduced as the children's engagement was high during both times of the day. Referring back to Marcus, his educators and I could perceive that he was retaining his high spirits and enthusiasm even during the activities and this was enabling him to take a more active role in his learning process.

A transformation could also be noticed in those children like Angela who were pinpointed by their educators as being the ones who were mostly disinterested in all the activities. Some of the educators based their interpretation of this indifference on the assumptions that the children were still young or very demanding. However, the children were attracted and participated in the activities of the projects. Thus, the apathy could be due to the fact that these children were simply not interested in the activities prepared by the educators because they were not challenging them to think.

It is important to accentuate that the role of the educator contributed towards keeping the children's level of motivation high. First of all, they allowed them to move between the groups in order to pursue the interest they preferred because as asserted by Dewey (1938), it is pointless to engage the children in experiential learning when the inquiry does not interest them. Secondly, the educators engaged with the children in dialogues when they observed them being interested in an activity in order to challenge their thinking. Referring back to Angela, as soon as Miss Philippa and Miss Nina saw her being interested in an experiment, they asked her questions on what she thought was going to happen and if she would have liked to try out something else to address the inquiry. These interventions made a positive impact on the involvement of Angela, as in the case of Varpu, which was narrated in Kalliala (2014) and discussed in the Literature Review.

Enabling the children to see the relevance between their existing inquiries and the activities they were engaged in to respond to those inquiries as advised by Dewey (1897), enabled the children like Mark to share what they already knew about the inquiry with his peers. In this case, Mark had the role of the more knowledgeable other who shared information, which formed part of their funds of knowledge, to advance the learning of the group (González et al., 2005; Vygotsky, 1978).

In the observations section, it was described how in Sajf Setting, task engagement enabled the children to reflect on what they were doing. As a result, Miss Philippa and Miss Nina became aware of the fragmented information that the children had on tap water. In an analogous way to what happened with Hal in Hedges and Cooper (2018), the educators collaborated to support Ana with videos and resources in her ZPD to enable her to change her thoughts independently, without giving her direct answers.

Through the children's level of engagement, it was again evident that the projects opened the doors for all the children, including those who required additional attention to express their thinking. Ruth preferred to engage in "transactional constructivism" (Biesta & Burbules, 2004, p. 8) with Tiago; a friend she felt comfortable with and then showed her educators what she has been thinking and collaborating on through her utterances, pose and gaze (Cremin et al., 2018; Pramling & Säljö, 2015).

6.2.4 Subsidiary Theme 4: Utilizing displays, resources and spaces as means of illustrating and fostering thinking processes

6.2.4.1 Observations

The settings' physical environments changed as the projects progressed. Gradually, the learners' works which consisted of reproductions of the same templates that were done during the previous weeks were replaced by project webs, drawings and artefacts related to the projects. The webs were elaborated and extended as the projects advanced and tasks were being accomplished. While working on these tasks, there were situations in which the learners started to ask new questions concerning the task they were accomplishing. Thus, during the morning Circle Time, in which the progress of the projects was discussed, these new emergent questions and queries were added to the webs (Figure 6.10).



Figure 6.10: Updating of project web during one of the Circle Time sessions

The drawings and the artefacts showed that even though in different situations the groups were working on a different aspect of the project due to the aspect they chose to develop as working theory, the tasks led to the progression of one common project.

As denoted earlier, the learning invitation corners and the sensory bins were for the first time introduced in the settings as part of the projects. These corners and containers were

modified according to the emergent interests and questions of the learners and thus their resources were frequently changed to stimulate further the curiosity of the children. Some children also brought their own resources from home that were linked to their projects and with their permission, these were added to the resources of the settings. They enjoyed sharing and talking to their peers about what they have brought from home. By way of illustration, in this photo, Charmaine, Danielle and Raquel are showing to each other and discussing the books they brought from home about trains (Figure 6.11).



Figure 6.11: Charmaine, Danielle and Raquel discussing resources brought from home

Additionally, the educators spontaneously availed themselves of the outdoor surrounding environment of the school as a learning resource. This was noticed in Harifa Setting while the learners were working on the parts of a tree. The educators took the learners into the school's backyard from where they could see the trees in an adjacent private garden. They noticed the parts that appeared over the wall and then their KGE involved them in a group conversation to say what they thought were the other parts that they could not see because of the wall. They showed their knowledge through their drawings and from these the educators could determine what the learners needed to learn.

6.2.4.2 Headteacher.

From the photos of the settings, the Headteacher immediately commented on the changes effected in the learning environments and was interested in the sensory bins and the learning provocations as she said that she had never seen like those before in the settings on her visits. Once again, she reiterated that “*our young learners will amaze us if only they are given the chance*” (Headteacher, 2nd Int.).

6.2.4.3 Educators.

Four principal arguments emerged from the four FCs. The first one was that the project work that was displayed was more authentic than the handouts they did before. The educators agreed that since the work was all done by the children, from the initial thinking such as predictions, brainstorming, exploration of ideas and so on till the generation of the end product; it mirrored of what the children were capable of doing. Miss Lucy also observed that even the display itself was authentic because the artefacts were not displayed for the sake of being on show but to represent the thinking processes that the children engaged in during their activities.

The second one was that the displays were meaningful to the children. For instance, Miss Melita who, during the first FCs, was one of those educators who were adamant about displaying perfect handouts of children stated:

Besides being more child-friendly, I think that now the setting is full of things that mean something to the children. When they look at something they have participated in doing, they could remember the thinking they went through together with their peers to arrive at that.

(Miss Melita, 2nd FC)

The third common argument referred to the efficient use of every space in the school and the outdoor environment. Whereas before most educators only considered working in the setting, through the project they realised that they could capitalise on different areas of the school to

empower the children to think. Referring to the activity in which the children drew the trees, Miss Miriam, Miss Carmela and Miss Lucy stated that going out in the backyard to look at the trees helped the children to observe and produce more detail in their drawings. In addition, they referred to the fieldwork and said that apart from giving the children a remarkable experience, it has also served them to learn by interacting directly with the environment. In another FC, Miss Philippa and Miss Nina referred to those children who drew the equipment they would have liked to add in the schoolyard. These educators said that the fact that the children went out to look at the yard before and during the activity helped them to visualise and imagine much better than if they had accomplished the task in the setting without observing the yard.

The fourth general consideration was related to the resources that the children brought from home. The educators interpreted it as a sign of the motivation that the children had in the project they were exploring. Miss Victoria added that it also meant that the children kept on thinking and reflecting at home on what they were doing. Thus, they looked up related resources which then they brought to share with their friends.

6.2.4.4 Discussion.

The considerations of the educators confirm that the exhibited work related to the project was meaningful both to the children and the educators of the setting. It assisted the children in remembering all the thinking and decisions involved in their learning process. In addition, it served the educators to better understand and evaluate the learning of the children, thus conduct a more authentic assessment (Cooper, 2017; Zessoules & Gardner, 1991).

It was interesting how some of the children, in the four settings, took the initiative to bring along their own toys and books related to the project to share with their peers and how they

referred to them for guidance in problem-solving situations. Thus, they used their own resources to advance the “collective agency” (Bandura, 2000, p 75) of the group to reach a common goal.

Whilst before the intervention, few activities took place outside the setting, the projects enabled the educators to recognise the common areas and the outdoor environment as a potential resource for learning. In fact, whenever the children were exploring a working theory that could be better addressed in another area of the school, the educators did not hesitate to take the children to that area in order to facilitate the learning process. The fieldwork conducted by Harifa Setting children was an exceptional experience because it enabled them to learn through direct exploration of the environment and it gave them the impetus and enthusiasm to delve into further exploration using the resources they had gathered from the site (Dewey, 1938).

6.2.5 Subsidiary Theme 5: Being mindful of children’s interests to inform opportunities for extending thinking

6.2.5.1 Observations.

The “pedagogy of listening” suggested in Rinaldi (2006, p. 15) and the “funds of knowledge” approach proposed in Moll et al. (1992) were discussed thoroughly during the workshops. Consequently, throughout the projects, the educators, in particular the KGEs, were noticed observing the children and commenting to each other about what they were noticing. This information, together with the hints they gathered from their interactions with the children, was then discussed at the end of the school day between the educators and me to find out what other possible resources and activities could be included to ascertain that the learners could follow their working theories and that the activities that formed part of the project emerged from the children’s interests.

Observation also served the educators to recognise when the projects were coming to closure because the children started to get interested in other situations around them. In the case of Xitwa Setting, for example, the house adjacent to the school's backyard whose garden was capitalised on during the project in Harifa Setting, started to be demolished, in the last two days of the intervention. Thus, only the front yard could be used. However, the children could look through the glass of the door separating their setting from the backyard and they could see the arm of the crane that was demolishing the house. At first, there were very few children who went to look but eventually, they started to call each other to go and have a look (Figure 6.12). Some of them also started to get interested in the sounds that they were hearing. Upon noticing that the learners were losing interest in the project on trains, the educators decided on doing the concluding activity during which the children in Harifa Setting were invited in Xitwa Setting to share what they have learnt on trains. During the final Circle Time observed in the setting before the concluding activity, the children and their educators decided that their next project was going to be 'Construction'.



Figure 6.12: The children becoming interested in the construction happening next door

6.2.5.2 Headteacher.

The Headteacher was informed about how the educators have used observations and interactions to inform learning. She asserted that she hoped that the educators would continue to practice the skills they have acquired during this case study.

I took the opportunity to discuss the ‘funds of knowledge’ concept with the Headteacher (González et al., 2005). She argued that it seemed theoretically sound but was unsure about its full implementation within the Maltese context. She agreed that it is beneficial to understand the contextual circumstances of the child and asserted that the schools already tried to do so, whenever the parents were willing to inform the school of any particular situation. The Headteacher maintained that the children hailed from households that more or less had the same culture. She emphasised that it would be too much to expect the educators to visit the households as well since that would be an additional burden, which would surely “*give rise to a significant dispute with the union*” (Headteacher, 2nd Int). She said that in her opinion, the educators had already ample opportunities to get to know the children given that they spent five hours with them every day in the settings.

6.2.5.3 Educators.

There was a general agreement among the educators that observations and dialogues helped them to get a sharper understanding of the inquiries of the children and as a result, they were more receptive to the children’s actions and words. Miss Melita asserted that in hindsight, she could now understand better why during the workshop I have emphasised the importance of perceiving the children’s inquiries and of using the knowledge they had of the children’s background to facilitate learning.

During the last section of the FCs, I asked each group of educators if they were willing to continue implementing the same pedagogical principles of the intervention. At that point I reminded them of what we have discussed during the workshops in relation to the funds of knowledge approach (Moll et al., 1992) and asked them if they would consider, perhaps in the future, to make family home visits in order to get to know the children better. No one agreed to the concept for various reasons. The main argument was that they did not consider it their duty to conduct home visits. Secondly, because they affirmed that in our society, that would be considered as prying into the private lives of people instead of as a way to provide a better programme for the children. Subsequently, I asked them if they would consider organising parents' evenings for the same purpose. In a similar fashion, the four groups commented that there was no need since they knew the parents and grandparents quite well because they met them during the arrival and dismissal times. During the workshops, the educators did not like the idea of inviting the parents to the settings to see what their children have learnt and maintained that the children already informed their parents of everything. They retained the same opinion until the end of the projects.

Reflexive Box: 8

... Although I have seen a lot of changes going on, I have to admit that I am frustrated at how ALL of them, irrespective of their training, remained adamant till the very last about not inviting the parents to share the learning of the children. Maybe, it would have given the children the first opportunity to talk or show their parents what they have learnt. Maybe, it would have served the parents to become aware of the thinking potential of their children. Maybe, it would have served as an opportunity for the educators themselves to get more appreciated for their work. So, children, parents and educators would have benefitted. Obviously, I respect their opinions but I thought that at least the educators of one setting out of four would have changed their minds throughout the projects.

I think that this study has started the ball rolling on various aspects, even if in small steps but parental involvement is surely an area which the study has not succeeded to stir. I think that acknowledging that not all aspects of the research turn out as anticipated also forms an important part of the research process and its credibility. I have to accept this finding and, later on, after the study, work hard to address this issue.

6.2.5.4 Discussion.

It is clear that as a result of the intervention, the educators recognised the usefulness of adopting a “pedagogy of listening” (Rinaldi, 2006, p. 15) since they saw its benefit in helping to provide an informed response to the children’s inquiries. This approach of perceiving and understanding the children’s interests also effected a change in the way the educators conceptualised observation. The comment of Miss Philippa in the first FC denotes that observation was associated with assessment and thus, she felt that the children should be given the chance to behave in the way they liked during the break. However, during the workshop, she understood the meaning bestowed to observation in this context and recognised its validity. In fact, she was one of the educators whom I mostly observed discussing the children’s interests she was noticing with the other educator in the same setting.

The reactions to the funds of knowledge approach (Moll et al., 1992) may have resulted from the fact that in Malta everything is regulated by the collective agreements between the educational sectors and the Malta Union of Teachers. The union ensures the strict adherence of authorities to the roles and responsibilities listed in these agreements.

However, it is also plausible to argue that these reactions continue to accentuate the need for more knowledge on the early years phase in the Maltese community, even among educators (Sollars, 2018). There is compelling evidence in research that visits to family homes heighten the possibility of the educator to capture the interest of the child to support accomplishment at school (Lovatt, Cooper, & Hedges, 2017).

Nevertheless, the Headteacher and the educators were not only indifferent to home visits as promoted in the funds of knowledge approach (González et al., 2005) but also to parents’ meetings that could be organised to share children’s new learning. They claimed that they

considered the information they gathered from the parents or relatives during arrival and dismissal times and which the parents gave them themselves as sufficient. Regrettably, the remarks of the Headteacher and the educators may echo the opinion of many other local educational professionals who still do not recognise that children construct their identities on their experiences and interests they have both at school and home (Chesworth, 2019; Hedges, 2018). The bureaucratic red tape and the reference to cultural norms as justification could be serving as folding screens to maintain power over what happens at school and keeping parents at arm's length (Hornby & Lafaele, 2011). They could be contributing to the perpetuation of cultural hegemony that legitimises power differences in society (Mayo, 2014). Moreover, they reveal the complexities to apply relational pedagogies that are built upon the sociocultural potential of household and community practices such as the funds of knowledge approach (Moll et al, 1992) that may arise in such a cultural context. These complexities constitute the major stumbling block in creating joint collaboration between the family and the school that can enable educators to understand the contextual background of the children and consequently respond to their interests being mindful of their funds of knowledge (Moll et al., 1992).

The findings of the five subsidiary themes discussed under the overarching theme of Relational Pedagogy demonstrate that it was the nature of the intervention which acted as a catalyst for the process of change and not qualifications. The workshops and the daily discussions enabled Miss Melita, Miss Philippa and Miss Miriam to gain the knowledge about the new practices and to implement them and empowered Miss Victoria to apply the knowledge she gained in the training for her qualification.

However, this stands in contrast to the approach which the four KGEs had towards parental involvement. Irrespective of their qualifications (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter), the KGEs were resolute in their stance against including the parents in

the learning process. Thus, in this case, neither the qualifications nor the nature of the intervention managed to effect change. Following the three dimensions denoted by Fullan (2007), this change would require a change in beliefs which is indicated as the third and most challenging to obtain. All the KGEs resisted change in this cultural practice and justified their usual habits as being sufficient enough to get to know the children.

6.3 Overarching Theme 2: Towards nurturing a culture of meaningful and purposeful dialogues

6.3.1 Observations.

The project approach to IBL animated the transactions between the educators and the children and the children themselves, in particular with regards to dialogic interactions. Closed questions posed by the educators that yielded one-word answers from the learners and teacher monologic talk were gradually substituted by short dialogues. In the four settings, dialogues were primarily introduced during Circle Time and once the educators started to encourage their learners to talk about the chosen project, the majority of the learners wanted to talk simultaneously and wanted to say everything they knew. Thus, particularly in Rebbiegħa Setting, Sajf Setting and Ħarifa Setting, the educators had to explain to the learners to wait for the turn and build on each other's interventions and thus, hold a dialogue.

Since dialogues constituted an indispensable component of the learning process, they had two essential characteristics. First, they were purposeful because they served to further learning. For instance, they were used to enable the children to transfer their prior knowledge to new contexts. For example, in Rebbiegħa Setting, when they came to decide on what to prepare for Bella's party, Miss Melita involved the children in a dialogue to make them think about their own

experiences of parties in order to plan Bella's. The children mentioned play, dance, food, cake and singing. Upon mentioning the item, the children were guided by supporting questions from Miss Melita to elaborate on their and each other's ideas and say how they could use it in Bella's party. For example, when Albert mentioned the cake, Miss Melita used further questions to lead the children to apply the idea to their context, as shown by Sarah:

Miss Melita: *Good idea! A cake? Can you now tell us what kind of cake? Come on Albert! I know you know it!*

Albert: *A big cake.*

Miss Melita: *But what do we call it?*

Dave: *A birthday cake!*

Miss Melita: *Good a birthday cake! And how do you think we should do Bella's cake?*

Sarah: *Four. Four candles.*

Miss Melita: *Well done! Can you tell us why four?*

Sarah: *One, two, three, four* (Opening her fingers, one at a time) *She's going to be four.*

Miss Melita: *So, now we know how many candles we need to put on the cake.*

(Rebbiegħa Setting, 9th Obs.)

Reflexive Box: 9

↵ ... This dialogue exposes two sides of the coin. On one side, it shows that this educator had already started to make some changes. I am noticing that she is no longer answering her own questions and has started to listen to the children. This is encouraging as it shows that the process of change has kicked off. Even the fact that she has introduced the habit of asking her children to touch their foreheads when she wanted them to think shows that she is aware that she needs to give the children ample time to think.

cont.

But on the other hand, this dialogue testifies the long way that we still need to go to say that we have a genuine dialogue going on between the educator and the children. Although she is asking the children, she is still in control. We need to move towards an authentic dialogue where the educator and the child are two interlocutors on the same level; where the educator trusts in the competence of the child. These situations continue to uncover the difficulties and the long process that is needed to change ingrained educational practices. In addition, they underscore the obligation of people in administration like me of providing the staff with ongoing professional development that will guide and assist them in their process of change.

The purposefulness of the dialogues was revealed as they mediated the process for the learners to reason their courses of action while addressing their working theories. The dialogues quoted in this chapter demonstrate the effort of the educators to start using dialogues for the co-construction of new knowledge, sometimes between the children and the educator and other times, between the children. An excellent example of such dialogue was observed in Xitwa Setting, in which the children were engaged in a long dialogue while deciding on how to build the mobile train. This particular dialogue is quoted in the next section on Co-construction (Section 6.4).

Secondly, dialogues were also meaningful to the children because they were founded on the inquiries sought by them. Thus, dialogues emerged from the tasks at hand. As a result, the learners perceived the relevance of the dialogues to their immediate inquiry and participated keenly. They were observed discussing with their educators as well as discussing in pairs or small groups while working on a collaborative task. To illuminate this point, here I narrate an anecdote of an activity in Harifa Setting to describe how it was decided to plant the seeds.

In order to provide a new home for the elves, Mark came up with the idea during Circle Time to make a new garden for them to solve their problem and the other children liked the idea. The educators gave them some time to discuss in five small groups how to address this venture. The educators moved between groups to facilitate the discussions, especially to support those groups which needed more guidance than others. Two groups came up with quite a similar idea because one considered making a small home with the pinecones gathered during the fieldwork and the other group suggested building them a home with the logs and sticks they got from the fieldwork. The third group wanted to make drawings of colourful trees and the fourth group proposed building them a tree with the interlocking cubes they had in the setting. The fifth group, of which Mark was a member, suggested using the seeds they had used in the previous activities to plant new trees for the elves and thus create a new garden. The groups had the opportunity to evaluate each other's ideas and the idea of the fifth group was the one liked by most. It was decided that the day after each group was going to plant some of the seeds in a pot. However, Mark was not satisfied with the decision and told Miss Miriam that five trees would not suffice to make a garden because every time he visited a garden, he saw a lot of different trees. Miss Miriam asked the other learners what they thought of Mark's statement. The children had to discuss the idea in groups and provide reasons to justify their choice of opinion. All the learners were very excited about making a big garden and it was decided that every child should plant some seeds so that they would have nineteen trees. Thus, the day after, the planting activity was organised.

In the following days, the children continued to water their plants but were disappointed because the trees did not grow as they expected them. During Circle Time sessions, various children flagged up this concern saying that the plants were taking too long to grow and the elves needed a home urgently. Thus, Miss Miriam set up a whole group discussion on this issue during

which the ideas that were mentioned by the other four groups in the initial problem-solving discussion were reviewed. Once again the learners were guided to give their choice and their reasons for selecting that option. From the conversation, it was decided to build them a temporary home with the material they had gathered during fieldwork. Some of the learners worked on this task and produced the following structure as can be seen in the photo below (Figure 6.13).



Figure 6.13: The home for the elves

This is part of the dialogue in which the learners explained to Miss Miriam what they were doing:

Miss Miriam: *That's lovely! Can you tell me about it?*

Martha: *It is the house for Zippy and Zappy.*

Miss Miriam: *And can you tell me why you used those things?*

Sasha: *The red paper is for Zippy and Zappy to find it easily.*

Emma: *To see it from far away.*

Miss Miriam: *And why did you use the acorns?*

Martha: *because they like them.*

Miss Miriam: *How do you know they like them?*

Martha: *because their hats are like these. (pointing to the acorns)*

Alex: ... and I put two leaves. The one on top to cover the house from the rain.
The one here (pointing to the one at the bottom) as door for their house.

Miss Miriam: ...and I can see that you put some soil and these marks (pointing to the black marks on top)

Sasha: to hide it. So that it won't be seen by animals.

Emma: ...and won't smell them (referring to the elves) when they are inside.
Because animals use smell to find things to eat. So, Zippy and Zappy will
be well hidden.

(*Harifa Setting, 24th Obs.*)

Throughout dialogues, the learners were encouraged by their educators to first, listen and reflect on what was being said and then, give their input into the discussion. In Rebbiegħa Setting, Miss Melita encouraged the children to think before speaking by touching their forehead to show that they were pondering on what was being said. As the projects progressed the learners were noticed to be abler to wait for their turn and elaborate on what the others before them had commented.

In addition, dialogues, especially the ones occurring in small groups gave ample time to the learners to express themselves and to make their point. Even the learners who were generally more complaisant than others started to voice their opinions. These instances were picked up by the educators who used questions to enable these learners to elaborate on their responses. As a result, the educators were spending more time listening to what the learners had to say and consequently got to know them better.

It is noteworthy to highlight that across the four settings, the learners started to engage in dialogues between them about what they were learning even during playtime and the settling-in time. The first reactions of the educators were that of surprise and enjoyment. Some of the educators were observed listening to the learners and commenting on how sweet the learners were since for them this was a sign that the learners were highly engaged in the projects.

However, Miss Victoria was also observed listening attentively to these dialogues. She frequently referred to such dialogues in later conversations with the learners. She reminded the child what he had said while talking to someone else to enable him to move forward in his learning. For example, on the third day of the project, during the settling-in time, Miss Victoria sat in a place from where she could listen to Stephen and Aaron talking while playing with toy tracks and tracks they have constructed with several pieces of wood they found in the setting. Each boy was driving a train along one of the tracks. They were chatting with each other about the train tracks and the speed and movement of their trains (Figure 6.14). Some days later, Aaron was working in a group in which they decided to make train tracks for a toy train using lollipop sticks. Miss Victoria noticed that he was not leaving space between the horizontal sticks. To help him realise his inaccuracy, she reminded him of what he had discussed with Stephen the other day and after some time Aaron arranged the spacing.

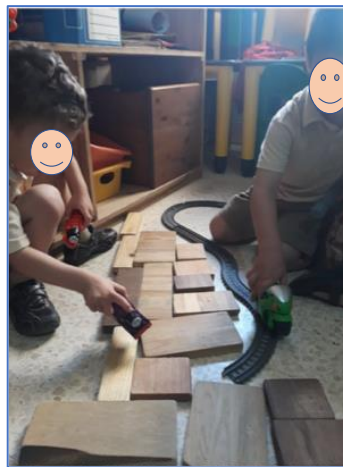


Figure 6.14: Exploring different train tracks

6.3.2 Headteacher.

In some of the photos shown to the Headteacher, the educators could be seen interacting with the learners while they were both engaged on tasks. She commented that this was the type of interactions she aspired to see. She remarked that on her visits she usually saw the educators

helping the children to follow the steps of preplanned activities while here in the photos she saw them interacting with the children about different activities that involved hands-on tasks. She particularly liked those photos which showed the educators involved in discussions with the children. She concluded her argument by saying that such interactions were highly fruitful for the children.

6.3.3 Educators.

With regards to interactions, all the educators commented that their learners had a lot to say. As remarked by Miss Melita, there was a “*huge difference in the way the learners expressed themselves*” (Miss Melita, 2nd FC). The reasons given by the educators were that the learners were interested in what they were learning as shown in these two quotations from different conversations: “*...because they could see the gist of it all*” (Miss Carmela, 2nd FC) and “*it made sense for them*” (Miss Dolores, 2nd FC).

Miss Philippa stated that she was pleasantly surprised with the ability of the learners to hold a dialogue both with her and among each other in pairs or groups. Similarly, Miss Carmela affirmed that she was amazed by the enthusiasm they had to share what they were learning about. Miss Miriam added that she was surprised at the varied opinions they had on the topic and reflecting upon this, she added that a plausible reason was that the learners were allowed the time they required to express themselves.

6.3.4 Discussion.

The projects gradually transformed the nature of verbal interactions used in the settings from close-ended transactions to vibrant dialogues as from their initial planning stages. In the first phase of data collection, it was only in Xitwa Setting that the children were observed giving some elaborated answers, for, in the remaining three settings, the questions were only asked to

retrieve specific factual information. The majority of the children were not used to be asked to express themselves on a topic. In fact, their educators had to guide them to wait for their turn, listen and develop on each other's interventions. As the projects progressed, their input showed more insight and confirmed that they were thinking and reflecting on their object of inquiry, "giving it serious and consecutive consideration" (Dewey, 1933, p. 3).

Once the educators recognised the incentive and enthusiasm that dialogues raised in the children, they took every opportunity to engage them as much as possible in a similar way to what is debated in Gjems (2010). The use of talk as a tool to challenge learners to think further and move forward in their ZPD, as advocated by Vygotsky (1978), could take place because the dialogues were meaningful and purposeful. Through such dialogues, the children were becoming more enabled to put into practice a multitude of thinking skills. To clarify my assertion, I shall use the dialogues quoted or described in the observation section as examples. Information processing and transfer of knowledge were observed in the Rebbiegħa Setting's dialogue on Bella's cake between Miss Melita and the children. The dialogue reveals how the children processed the information that they already possessed about cakes and transferred it to address their new contextualised inquiry (Luff, 2018). The dialogues that took place in Ħarifa Setting that led to the planting of seeds and the construction of a new home for the elves reveal the use of problem-solving skills as the children interacted to plan a collaborative strategy to solve the problem of the elves (Daniel et al., 2012). Moreover, these dialogues indicate that the children, albeit KG-aged, were capable of argumentation as debated by Dovigo (2016). In fact, Mark conferred to Miss Miriam his arguments stating why he believed that they were supposed to plant more than five trees if they intended to make a garden. Argumentation was again observed being applied by other children to prove that they should reconsider their original proposals since the plants were taking too long to grow.

Dialogues have assisted the children in questioning their previous decisions and seek alternative solutions (Bruner, 1996). When the children noticed that the trees were taking too long to grow, they started to question if they had made the right choice. In addition, in the course of these dialogues, the children had the opportunity of practising persuasion, which is identified by Hargraves (2014) as a high-quality thinking skill that is difficult to foster. When it was decided that they were to review their original optional ideas, the children had to discuss in groups to pick their choice and provide reasons to justify it.

Furthermore, these dialogues revealed the children's creative thinking (Daniel et al., 2012). For instance, in the dialogue with his peers and Miss Miriam, Alex explained that the leaves represented the door and the protection from the rain. Additionally, the dialogues assisted the children in revealing critical thinking (Daniel et al., 2012). For example, Sasha and Emma expressed their intersubjective critical thinking that led them to draw the black marks and put the soil in the area surrounding the house because they intended to make a safe home for the elves.

The change in the level of verbal interactions may also have been due to the relevance that the children perceived in what they were learning to their lives (Dewey, 1938). This was recognised by the educators themselves, as proved by the comments of Miss Lucy and Miss Dolores. In addition, it could also be due to the experiential nature of the project activities which gave ample time to the children to think and express themselves (Gandini, 1998). Referring to Rebbiegħa Setting, Miss Melita trained her children to touch their forehead before speaking to ascertain herself that she would give them enough time to think. As demonstrated by her comment, Miss Melita showed that she immediately bore the fruit of her strategies as there was a major change in the interactions of the children. Such gestures may also contribute towards the creation of a "culture of thinking" (Salmon, 2010, p. 29). They may enhance the meaning of the words associated with thinking used by the educator to encourage children to think.

However, although Miss Melita was no longer modelling answers for her children, she still had control over what was discussed and mentioned in the dialogue. It is evident that even though this educator started to effect some changes, her notion of dialogue still needed to be highly developed and refined. Such instances cast light on the complexities associated with changing educational practices (Fullan, 2016) that necessitate the organisation of focused and effective ongoing professional development for educators (Bredeson, 2000). Moreover, as elucidated by Brezicha, Bergmark and Mitra (2015), the support has to be differentiated according to the needs of the educators and sustained through time, giving them ample space to share their thoughts and to become proficient in the skills needed to embrace the reform.

Vygotsky (1978) asserts that “By giving our students practice in talking with others, we give them frames for thinking on their own” (p. 19). Engaging the children in meaningful dialogues during the project events contributed towards enabling children to learn how to sustain dialogues with each other beyond activity time to collaboratively explore other ideas that came to mind. This was the case of Stephen and Aaron in Xitwa Setting who interacted in a meaningful way during their exploration of train tracks. By implementing a “pedagogy of listening” (Rinaldi, 2006, p. 15), Miss Victoria noticed the interest of the boys and capitalised on their dialogue to enable Aaron during a subsequent activity to proceed through his ZPD.

The changes that occurred position the KGEs at different points on the continuum of change (Fullan, 1993). The findings demonstrate that Miss Melita, Miss Philippa and Miss Miriam were still at the initial stages of the continuum as they were introducing new practices gradually but at the same time held the control of the dialogues. Although the nature of the intervention was enabling them to start applying some of the practices discussed during the workshop and the daily discussions, it may be deduced that the dialogues in their settings were still highly teacher-led. In comparison, Miss Victoria was more advanced on her continuum of change because during the

first phase she was already observed engaging the children in dialogical interactions using open-ended questions. Whereas the others were still being surprised by the ability of the children to engage in dialogue, Miss Victoria was already on a deeper level of analysing the dialogues going on between the children in order to enable them to progress in their learning. These subtle variations indicate that in this case, the difference in qualifications of the KGEs may have counted (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter). Higher qualification and training may have been the factor that enabled Miss Victoria to provide her children with experiences of higher quality (Sylva, Taggart, Siraj-Blatchford, Totsika, Ereky-Stevens, Gilden & Bell, 2007).

6.4 Overarching Theme 3: Towards Instilling the Practice of Acquiring Knowledge through Co-construction

6.4.1 Observations.

As for the creation of relational pedagogy and the implementation of a dialogic approach to teaching, co-construction of new knowledge was also a newly introduced concept in the settings. Having said that, the efforts to create relational pedagogy and to change verbal interactions into meaningful and purposeful dialogues smoothed the path towards the acquisition of new knowledge through co-construction. Even though the educators were used to convey new knowledge to the learners through the traditional methods of teaching, they were observed engaging with the learners to start implementing the new strategy as from the first few days of the projects while interacting with the children in groups.

In some cases, co-construction was used to help learners reflect on what they were doing and to think about how they could go about the task differently. In order to clarify my observation, I now relate an anecdote of a situation that occurred in Rebbiegħa Setting on the

second day of the project in the group that decided to work on the preparation of presents for Bella. The group decided to start by preparing some jewellery and two of them informed Miss Melita that they were going to do a bracelet. The learners threaded eight penne pasta into a piece of string and then joined the ends with tape. Meanwhile, Miss Melita was keeping an eye on them from the other side of the setting, asking them, every now and then, if everything was fine since it was the first time that they were using scissors on their own. The learners nodded and moved on with their task. When they were ready, they asked Miss Melita to go to see what they did. Miss Melita asked the children what it was again and asked one of the learners to show her his wrist. She put the string of pasta round his wrist and asked the learners if it fitted well. The following dialogue illustrates how through co-construction, the learners were directed towards the acquisition of new knowledge:

Miss Melita: *Does it fit well Luca?*

Luca: *No, it is very very large.*

Miss Melita: *So what do we need to do Dean?*

Dean: *Make it smaller.*

Miss Melita: *And how are we going to do it?*

Dean: *Cut it like this.* (Showing that he wanted to cut it in half with his scissors. The boys cut the string across removed two penne and joined the ends again with tape. Miss Melita observed the learners without intervening. Luca put it again around his wrist and the boys looked at each other in a puzzled way since it was still large. They looked puzzled at Miss Melita).

Miss Melita: *Ok. So, I want you to think about how we can make a bracelet which is the right size for Bella.* (During the activities Bella the puppet was always taken out of the room because they were working on preparing a surprise party for her. The learners still did not answer).

Miss Melita: *What do we need to know to make it the right size? Look at my bracelet* (turning her bracelet around her wrist), *what can you tell me about it?*

Dean: *It is good for your hand.*

Miss Melita: *So what do you think we have to do Luca?*

Luca: *Look at Bella's hand.*

Miss Melita: *Good. So we need to go and look at her hand.*

Dean: *Just look at her hand. No talk because she'll notice us!*
(*Rebbiegħa Setting, 5th Obs.*)

The boys and Miss Melita went into the multi-activity room on tiptoes to have a quick look at Bella's hand. Afterwards, Miss Melita continued the dialogue with the boys, assisting them in their thinking process. They eventually looked for smaller pieces of penne that were suitable for the size of Bella's hand.

On other occasions, co-construction was used by educators to lead the learners through their reasoning to help them arrive at a plausible solution for their inquiry. As an example, I quote part of the dialogue of the whole group Circle Time discussion in Xitwa Setting when the learners came up with the idea of building their mobile train and were discussing how this could be done. Such dialogue formed part of many others that assisted the learners to arrive to complete the artefact independently.

Miss Victoria: *So, how are we going to do it? Let me see, Who's going to start?*

Samuel: *We can make a train from broken ones!*

Miss Victoria: *Where can we find old pieces?*

Michael: *No we can't. We don't have trains in Malta.*

Miss Victoria: *We might not find old pieces of trains as Michael is saying. So? Come on Michael think of another way!*

Tiago: *and we want a new one.*

Miss Victoria: *So, come on, think! How can we make a new one?*

Samuel: *from broken toys.*

Michael: *but that would be small. Can we make a big one, Miss Victoria?*

Miss Victoria: *Yes, we can. Come on, the others, think! How can we make our train?*

Denzel: *I know! Boxes! We can do a train out of boxes!*

Miss Victoria: *What if we get big boxes? If the boxes are big enough ... (pause)*

Claire: *we can get into them!*

Michael: *But we cannot ride in boxes!*

Miss Victoria: *Can't we? We'll get there don't worry.*

Michael: *But how?*

Miss Victoria: *We'll plan that as well.*

Elisa: *So we'll look for some big boxes at home?*

Miss Victoria: *Yes, I want you to get some big boxes next Monday. Even us, we'll get some, won't we Ms Rosaria?*

Miss Rosaria: *Yes, of course.*

Michael: *We're going to take a lot of time to do all this.*

Miss Victoria: *Don't worry Michael. We can take a week or two but we'll do it.*

Fiona: *And I wish to go on a train!*

Miss Victoria: *So we'll do it don't worry so that you can ride on it.*

(Xitwa Setting, 27th Obs.)

Co-construction was also noticed between the learners themselves. Earlier in this chapter, in the section on pedagogy, I already gave four examples of such instances, one from each setting. I described how Martina, who was in Rebbiegħa Setting, used her knowledge on the baking of pizza to lead the others in its preparation for Bella's party. In addition, I explained how Alison, who formed part of Sajf Setting, showed her peers how to prepare the wraps by making use of her prior knowledge. Furthermore, I referred to Mark, who belonged to Harifa Setting, who shared his knowledge on trees to explain to his friends that different types of trees necessitate different kinds of care. Additionally, I described how Tiago, a boy in Xitwa Setting, used his first-hand experience of trains to guide the others to prepare the front cabin of the train.

It has to be said that when the more knowledgeable other was a child, the other children got more interested in his/her knowledge. In the case of Tiago, for instance, the other children became fascinated when he started to relate his experiences of trains at the start of the project.

Since most of them had never travelled on a real train and the one they went on was a fun train which moved on wheels, his peers asked him to explain the meaning of the new words he was using while relating his own experiences, such as carriages and tracks. They bombarded him with questions when they heard him say that he passed through railway tunnels dug in mountains, his parents used to take him by train to visit his grandparents when they lived abroad and that carriages can vary in size and comfort. This reflected itself later on when the mobile train was ready and they played with it in the front yard. They pretended to go on icy mountains and to visit relatives abroad.

There were various episodes throughout the projects of the four settings in which technology was used to co-construct new knowledge. In such cases, the educators gathered the concerned group of children around the setting's laptop and showed them how to search on the internet for information. The children were asked to say what they wanted to write as their search and some of them were also able to spell whole words. However, in all cases, it was the educators who inputted the search as the children were not able to recognise the letters on the keyboards given that they were in capital letters. Generally, the children preferred watching an online video and then apply the information in the task they were doing. For instance, the children who decided to make some drawings of magical trees were curious to get to know what can be found underneath a tree. They asked their KGE who first engaged them in a discussion and then showed them some videos on their inquiry. Afterwards, when they returned to their task, they elaborated their pictures to include the new knowledge they had acquired about roots (Figure 6.15).



Figure 6.15: Examples of magical trees

6.4.2 Headteacher.

Upon providing various examples of how new knowledge was co-constructed during the projects, the Headteacher was satisfied that the strategy has been implemented since she believed that it could only be practised if there were fewer learners in the setting and more personnel. However, she reasserted that the educators, especially the KGEs still needed more training in these “*innovative strategies because otherwise, they would revert to their old habits*” (Headteacher, 2nd Int.).

6.4.3 Educators.

When the subject of co-construction was mentioned in her FC, Miss Nina immediately referred to her remark in the first FC, in which she had said that co-construction seemed to her to be an artificial theoretical notion that could not be translated into practice. She clarified that now that she had seen it applied with the children, she could say that it was doable and enjoyable even for her as an educator because she felt that she had also contributed actively to the children’s advancement in thinking. She emphasised that her initial reaction was instinctive given the innumerable changes that were taking place simultaneously in the ECEC sector.

The element of fun was also mentioned by other educators. Miss Melita and Miss Dolores remarked that it was the first time that they were interacting on this level with the children; taking an active part in their own activities. Miss Melita commented that she wished that she would be able to continue on those steps after the conclusion of the project.

However, the consideration that stood out in the four FCs on co-construction was the usefulness of the strategy in enabling the children to think on a deeper level. Miss Melita and Miss Dolores agreed that they were surprised with the ability of their children to reflect on what they were doing. Miss Philippa and Miss Nina affirmed that it was through co-construction that they actually “saw” the thinking of the children. Miss Victoria and Miss Rosaria confirmed their position that they knew that co-construction was effective and that the project has continued to affirm it. Miss Victoria was glad that she had succeeded to implement co-construction on several occasions during the project, involving all the children. Miss Carmela stated that for her, co-construction was effective because they got involved in the inquiries of the children. Upon hearing this, Miss Lucy added that once the children realised that they were ready to get thoroughly involved in their activities, they got more motivated and invested more effort in what they were doing. Miss Miriam concurred with these observations and maintained that she had never seen the children getting so engrossed and excited about what they were doing than when she actually sat down with them during group work to assist them in the accomplishment of a task.

Reflexive Box: 10

“ ... Even if, as in the case of dialogues, there is still a long way to go, I noticed that all the educators tried to co-construct new knowledge with the children. For some of them, it was easier but I noticed that even the ones who were really traditional, tried to engage in co-construction and commented that they have also enjoyed themselves!! Thus, I have to take heed of the Headteacher’s advice and plan on providing a scheduled curriculum time slot during which I can meet with these educators and support them in the implementation of these strategies after the study.

I have to admit that Miss Nina’s comment during the first FC was not a surprise since it is true that several changes were introduced all at once. However, it also reflects the common tendency among educators to resist change and innovative practices before trying them out. I am glad that she has formed a new opinion based on her experience. Perhaps, in the long term, she will become more aware of the advantages of co-construction.

6.4.4 Discussion.

In view of the notable difference in the viewpoint of Miss Nina, it could be inferred that although co-construction of new meaning may appear to be a notion that simply “*looks good in a book*” (Miss Nina, 1st FC), in actual practice, it is realisable if the setting embraces relational pedagogy and capitalises on the benefits of meaningful and purposeful talk. Otherwise, as argued by Veraksa et al. (2016), similar processes that necessitate the direct engagement of the educators in the accomplishment of the tasks of the children would be impossible to enact because they cannot be practised in a setting that supports didactic approaches to learning. Thus, it may be that these are the elements that are needed rather than fewer children and more personnel, as suggested by the Headteacher.

In addition, it is noteworthy to consider Miss Nina’s remark that her initial reaction did not arise from her opposition to co-construction. It was animated by the excessive changes and deadlines that early childhood educators are continuously inundated with, in the present

circumstances. This continues to shed light on the current problems that the early years workforce is facing both locally and internationally (Akhil, 2019; Murray, 2017b; Sollars, 2018). However, as I commented in Reflexive Box 10, it may also bring forth the resistance that educators may have towards innovative strategies (Garvey and Lancaster, 2010).

Referring to the episodes which involved co-construction between the educators and the children, the above findings reinforce the notion that for thinking to flourish, the assistance of the educator has to consist in direct engagement in the children's activity rather than in breaking down the task in simple steps (Jordan, 2009; Valsiner, 2007). In the case of Rebbiegha Setting, Miss Melita became the partner of Dean and Luca in the endeavour. As a first step, she led them to critically assess the bracelet that they did in order to help them realise what was wrong with it. Then, she engaged with the children in co-construction by inviting them to look at her bracelet, sustaining their working theory and following their plan in going to measure the wrist of the puppet. In other words, Miss Melita engaged the children in a seamless learning experience rather than in small tasks that simulate learning (Veraksa et al., 2016).

With regards to the co-construction episode that occurred in Xitwa Setting, Miss Victoria used the strategy for problem-solving. She did not give direct answers; instead, she directed the children through "a process of reflexive 'co-construction'" (Siraj-Blatchford, 2009, p. 153) to reason out a realistic course of action. In this case, she engaged all the children in the setting in this co-constructive process since the production of the mobile train was aspired by all the children. The plan was formulated and agreed upon by all those present and everyone, including the educators, felt responsible for getting all the necessary material they agreed upon in order to start their project the following Monday. With her comments, Miss Victoria also boosted the confidence of the learners and showed them that she believed that they could do it. As a result, their input was more productive.

With regards to the co-construction of new meaning between the learners themselves, the concept was applied for the first time in all the settings during the projects. As noted in the observations section, there were various instances in which some of the children took on the role of the more knowledgeable other (Vygotsky, 1978). In these cases, these children had the opportunity to share their funds of knowledge (Moll et al., 1992) with their peers. They could perceive how their own competences were beneficial and valid for the whole community. As described earlier, these circumstances helped to intensify the interest of the children as they got fascinated by the knowledge that these children possessed. By using this new knowledge during pretend play, the children showed that they have reflected on and assimilated the new information that they have learnt from their young more-knowledgeable-other peers.

In an analogous way to what occurred in the research by Hedges and Cooper (2018), technology was used in various activities to enable the children to search for further information in order to be able to proceed with their working theories. The information was always sought with the help of an educator who through dialogue directed the children to reflect on what they have found. However, in all cases, it was noticed that the children were not capable of performing a search independently. Thus, despite all the effort and time that the educators have invested in teaching letters and sounds as from the beginning of the scholastic year when the children were faced with a situation in which they had to apply what they have learnt, they were unable to do so. This situation continues to reaffirm Dewey's (1978) principle that education should be "... a process of living and not a preparation for future living" (p. 7).

The findings of this overarching theme indicate that as in the case of dialogues debated in the previous section, Miss Victoria was the only KGE to know about the practice of co-construction. This may reaffirm the connection between higher qualifications and superior quality provision (OECD, 2012) (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter).

However, here limited training was not the only issue impeding the implementation of co-construction. Although Miss Victoria knew the benefits and application of co-construction obtained through her degree, she was still being hindered from implementing it in practice due to the constraints imposed by the curriculum programme that was heavily focused on school readiness. As argued by Nutbrown (2018), qualifications are not enough; high-quality provision also requires the opportunity to implement them in the setting (Lightfoot & Frost, 2015). In fact, Miss Victoria's contentment emanated from having had the opportunity of engaging in co-construction with children on several occasions. Consequently, here it was the nature of the intervention that permitted these changes to occur.

6.5 Overarching Theme 4: Towards the implementation of an emergent and inquiry-based Curriculum

6.5.1 Observations.

The first steps towards creating relational pedagogy, using meaningful and purposeful dialogues and enabling children to acquire new knowledge through co-construction, laid the groundwork for the implementation of a curriculum that was both emergent and inquiry-based. This was translated into practice through the realisation of a project in each setting. Miss Melita, Miss Philippa and Miss Miriam asked for my help in the choice of topic for the projects. In view of the fieldnotes and reflective thoughts that I have generated during the first phase of data collection, I discussed the interests of the children with their respective educators during the workshops. These conversations paved the way towards the choice of topics. Miss Victoria did not need any help as she was accustomed to such practice.

During the projects, the children experienced contextualised experiential learning. Every morning during Circle Time, the project webs were revised to see what inquiries were answered, what inquiries were still developing and to add new inquiries that emerged the day before (Figure

6.10). When all the children were interested in the same inquiry, the latter was undertaken as a whole group. When different learners wanted to work on different aspects, they were encouraged to follow their interest. At the end of the day, the educators gathered all the children together as a group and they asked them to share what they have learnt from the tasks they did and how they have accomplished them. When different children worked on different tasks, the educators engaged them in a discussion to show to their peers how their task was contributing to the development of the whole project. The children in Sajf Setting were the ones to get immediately used to this process and were eager for this session.

While the children were engaged on tasks, the educators went around and interacted with them on the process in which they were involved. Very often these interactions led the children to pose new inquiries, which in most cases consisted of more complex inquiries than the ones already accomplished. Moreover, these interactions showed that the learners were reflecting on what they were learning. Karla, to give an illustration, during the plant activity in Harifa Setting, asked Miss Miriam, “*But, how do seeds of big trees go in the soil?*” (Karla, Observation 21). Through some questions, it was clarified that Karla was asking about how seeds get dispersed in the soil. To enable Karla to address her inquiry, Miss Miriam engaged her in a discussion with some other children but the only way that emerged from this discussion was that people can plant the seeds themselves as they were doing during that activity. Consequently, to broaden their knowledge and, in particular, to enable Karla to address her inquiry, Miss Miriam found some videos on YouTube on seed dispersal to show them immediately how this happens. Upon seeing this, all the children left their task and went in front to watch the videos. Surprisingly, what was considered by the educators to be the most difficult video for the children to understand, was the one that they enjoyed the most because it was not animated and they could see the actual seeds and plants.

Although the children were not used to collaborate on one common task, project work facilitated cooperative learning and they looked forward to working with a peer who shared the same interest. They gradually became more accustomed to working in groups, to listen to each other and to give their opinion on how to address an issue. Group work was observed in some settings more than others because some of the educators preferred to address the inquiries raised during Circle Time by all the children as one whole group. In such cases, the children were encouraged to discuss the completion of their task with the child next to them.

Through their body language, the children showed that they were more motivated to work collaboratively when their educators told them directly that they believed they were able to do so. It was interesting to hear children, every now and then, while working in groups, telling their educators that they were enjoying themselves working “*like this*” (observed in Sajf, Harifa and Xitwa Settings). When a child found it hard to work with others, one of the educators in the setting intervened to assist in the process but then withdrew from the group once she saw that the child was able to interact with the others independently. These learners were generally the same and their educators kept an eye on them, to check that they were participating actively in the activities as much as their peers.

Occasionally, some children wanted to accomplish tasks on their own and they were given that opportunity. However, if they asked for support, the educator involved other children in trying to find a solution for their inquiry. For instance, in Rebbiegħa Setting, Deborah wished to make a purse on her own for Bella. She folded a piece of cloth, which she chose from the resources brought by the educators and flattened the edges with her fingers to press them together. She put some white glue on one of the sides and pressed down the edges. However, once she removed her fingers, the cloth opened up again. I was beside that table at that moment and Deborah looked at me to seek my help. I asked her what she thought she needed to do but

she did not know. At this point, I asked her to ask the other learners on the same table to see if they had an idea of how this could be done. Chloe told her to press it down more but once again it opened. Then Mia got a piece of felt from the materials at the centre of the table and put it on Deborah's finger. Deborah pressed down the cloth with the felt and said that it was opening less. At that comment, Chloe told her that she going to get her a doll from the home corner to put it on top. The girls placed the doll on top and they noticed that the gap had closed. They looked satisfied that they had managed to handle the situation.

Reflexive Box: 11

... The children who wished to pursue their interests on their own were given all the space since I was mindful of their right to do so. I was also aware of the fact that the children were also going through a process of change. They have been used to working on their own and now it was only fair that they would take all the time they needed to get used to working with other children.

With the implementation of IBL activities, the educators were observed spending more time and giving more attention to the learning process than they did before. Given that they were continuously moving between groups and interacting with the children on what they were absorbed in discovering or accomplishing, more focus was laid on the learning process rather than the outcome. While assisting the groups, the educators were becoming more accustomed to wait and listen to what the children had to say; giving them time to express themselves to describe what they were doing. They were also observed engaging more often with the children who had some kind of difficulty to express themselves by asking them simple questions through which they could gauge their understanding.

Dialoguing and co-constructing new knowledge with the children provided the opportunity for the educators to lead their children to find alternative solutions when they got

stuck on a problem. For example, in Xitwa Setting the children found it hard to perceive how they were going to ride the boxes. They did as Claire had suggested in an earlier dialogue; they jumped into the boxes but they could not make them move with the movements of their legs. Miss Victoria still allowed them to try out the working theory proposed by Claire, even if she knew what was going to happen. Upon seeing the reaction of the learners, Miss Victoria involved the learners in a dialogue with the intention of reasoning out how to solve the issue. Eventually one of the learners, Zayne, came up with the idea of cutting a hole in the bottom so that they could let their legs through. Then, Stephen, proposed cutting the whole bottom because he said that in such a way they could move their legs freely and their train could move faster. Stephen managed to persuade the others and in fact, with the help of Miss Rosaria, the whole bottoms on all the boxes were cut.

Fieldwork formed part of the curriculum implemented during the intervention in two of the settings. In the case of Harifa Setting, the planned outing was changed into an educational one. The learners had the opportunity to spend time observing the trees and the insects inhabiting them. They did bark rubbing and collected various material that was then used for subsequent activities (Figure 6.16). Since the parents attended for this activity, they were also involved in helping the learners to conduct their fieldwork.



Figure 6.16: Harifa Setting's children during fieldwork

In the case of Sajf Setting, fieldwork was conducted by a group of children on the school premises in response to an inquiry raised by them. It was conducted when some of the children discussed what playground equipment and resources they would have liked to have in the schoolyard in order to be able to exercise more. No fieldwork was conducted by the other two settings.

The overriding challenge faced by the four KGEs was that of putting aside the prescribed scheme of work for literacy and numeracy and include the academic content that was needed in response to the inquiries of the children. This challenge started to mitigate for some of the educators once the opportunities started to arise in which they had to teach academic content to the learners because they needed it to proceed with the project. As an example, I can refer to Rebbiegħa Setting in which the need arose to learn how to write the letter 'b' when the children realised that they had to write it in order to ensure that Bella would know that the cards were for her.

However, I have to disclose that before embarking on the projects some educators found it hard to accept that opportunities would arise for them to teach academic content, especially in relation to literacy, through an emergent curriculum. Even though the workshops were held separately for each setting, both Miss Philippa and Miss Miriam told me that they would feel more confident about the project if the sounds that were next on their literacy schemes would be amalgamated within the projects; which were /v/ and /z/ respectively. Since I did not want them to get discouraged, I had to come up with a possible strategy that would not interrupt the flow of the project. Thus, to Miss Philippa, I suggested that she could use the setting's soft toy as the protagonist of the introductory story because I knew that the children called it Vic. Similarly, I proposed Miss Miriam to invent two names that started with the /z/ sound for the elves that were going to be used throughout the projects. The reason I gave them was that in such a way, the

learners would be listening to the sound very often and at some point, they would be able to show them its corresponding letter. However, I also told them that they would have soon realised that throughout the project there would be plenty of opportunities to teach the children literacy skills that were not limited to the single letter they had in mind.

In fact, in Sajf Setting, the children did not only learn the sound /v/ but learnt how to recognise the word 'vegetables' because they got fascinated by its length when Miss Philippa wrote it on the board during one of the activities. Miss Philippa was more amazed when she saw that under their drawings some children were also attempting to write the word as well. The situation was different in Harifa Setting because as from the early stages of the project, Miss Miriam soon realised that the children were acquiring far more vocabulary and speech and listening skills. She did not feel the need to make a specific activity for the writing of the letter. It was in Xitwa Setting that literacy-related skills developed the smoothest. I observed that the atmosphere created in the setting was calmer than in the others and this facilitated both the development of the project as well as the learning process. As a result, by the end of the project, the children were able to use in context a vast repertoire of vocabulary related to trains such as engines, platform, controls, officer and shunter train.

With regards to numeracy, there were instances in which the children needed to learn mathematical concepts in order to proceed with their inquiry. For instance, this was the case when Luca and Dean were preparing the bracelet for Bella. They had to learn how to get a reliable estimation of the length of string they needed before ensuing with their task.

There were opportunities for the educators to engage the children in mathematical activities that went beyond what was expected in reports. For instance, in Sajf Setting, from the daily observations of the lunches, Miss Philippa and the children constructed a daily block graph.

On other occasions, the educators were observed including mathematical terms and expecting the learners to use them. For example, while preparing the tracks for the toy train, Miss Victoria made use of the words ‘horizontal’ and ‘vertical’ and soon the learners were using these words while working on their task instead of ‘upright’ or ‘across’ as they were saying before their educator joined their group.

Reflexive Box: 12

... Referring to how the children assimilate academic content may seem out of place. However, I don't think this is the case since it is the major stumbling block that the educators were envisaging at the beginning of the projects. What I want to elucidate is that by giving attention to the cultivation of thinking, the learning of numbers and letters is not hampered. Indeed, it starts to form part of the learning process, thus becoming significant and useful.

It is also another way of showing consideration and respect towards research participants, towards the learning process of educators. As a researcher, I have to be cautious not to expect that changes modify contextual circumstances overnight. Identifying and addressing the needs of educators is time consuming and complex. Thus, change has to be effected one step at a time, requiring a detailed plan of action.

An interesting factor was that during their free play, some children invented stories and games in relation to their projects. This took place in the four settings, especially in Xitwa Setting. All the children, at one point or another, played with their mobile train and imagined going abroad to visit relatives and places that were mentioned during the activities (Figure 6.17). Referring to Sajf Setting, for example, some of the children were noticed pretending they were cooking healthy food for their peers in the home corner and imagining a family situation in which the ones playing the role of the parents told those who played the children to drink water because that was what was best for them. Throughout these playful episodes, the children used vocabulary and information that they were learning during the activities of the projects.



Figure 6.17: Children playing with the mobile train during free play

6.5.2 Headteacher.

Referring to the material I have shown the Headteacher as evidence of the projects, she was very pleased to see the children engaged in such activities. She repeated several times that she wished she would have had the time to go and visit the settings during the implementation of the projects to see the children enjoying learning through this curricular approach. She stated that her aspiration was that the KGEs would continue to work along these lines after the intervention.

6.5.3 Educators.

The linkage between the body of data and the claims is again portrayed through Table 6.2. It is a diagrammatical representation indicating each educator's perception of the emergent and IBL curriculum following the intervention and the linkages that they drew between this curricular approach and thinking skills, children's interests and the various aspects of learning mentioned in the FCs.

Educator	FC	Attitude following intervention	Linkage between constructs and:														
			Thinking Skills								Awareness of children's interests	Learning					
			Further Thinking	Reasoning	Questioning	Sorting	Comparing	Creativity	Investigating	Calculating / Counting		Fun	Meaningful Academic Content	Passion	Effective	Understanding	Extension
Miss Melita	2 nd FC of RS	Positive & Motivated	✓	✓	✓						✓	✓	✓				
Miss Dolores	2 nd FC of RS	Positive & Motivated	✓	✓	✓						✓	✓	✓				
Miss Miriam	2 nd FC of HS	Positive & Motivated				✓	✓	✓			✓	✓	✓	✓			
Miss Lucy	2 nd FC of HS	Positive & Motivated				✓	✓	✓			✓	✓	✓	✓			
Miss Carmela	2 nd FC of HS	Positive & Motivated				✓	✓	✓			✓	✓	✓	✓			
Miss Philippa	2 nd FC of SS	Positive							✓		✓	✓	✓		✓	✓	
Miss Nina	2 nd FC of CS	Positive							✓		✓	✓	✓				✓
Miss Victoria	2 nd FC of XS	V Positive	✓				✓			✓		✓	✓	✓			✓
Miss Rosaria	2 nd FC of XS	V Positive	✓									✓	✓	✓			

Table 6.2: Linkage between the raw data from the focused conversations and the findings for Section 6.5.3

In the four FCs, there was the general consensus among the educators, that the emergent and inquiry-based curriculum implemented during the intervention gave ample opportunities to the children to cultivate their thinking. For these educators, this was possible:

Miss Melita: *...because this curricular approach has a ripple effect if you think about it. First, you elicit the interest, you involve them and stimulate them to say what they would like to know...*

Miss Dolores: *...so, there is already a lot of thinking involved...*

Miss Melita: *...yes, then, you give them the chance, and assist them in answering their own questions...*

Miss Dolores: *... which leads them to ask more questions...*

Miss Melita: *and they start all over again.*

(Miss Melita and Miss Dolores, 2nd FC)

The reason given in another FC was that the project made learning purposeful and enjoyable, and thus, automatically the children became passionate about their learning. As a result, they got absorbed and used several thinking skills. Here the three educators referred to various instances in which the children practised different thinking skills such as when there was the sorting and comparing of the seeds and when some of the children drew what they imagined they would find below the soil.

A common reaction that emerged from the four FCs was that learning was more effective than usual. Whereas the children used to require their help in everything, during the projects, they were able to accomplish several tasks independently, they learnt to consult with each other and asked for help only on certain matters. Miss Philippa added that even though she was going to retire in a few years, she wanted to try the approach because what happened in the setting did not only make more sense for the children but also for her since she realised that she can help the children to learn difficult concepts in a much easier way.

There were other benefits of the curricular approach that were mentioned throughout the four FCs. To start with, in all FCs, it was argued that this curricular approach smoothed the process for the educators to recognise the interests of the children, and as a result, they got to know their children better. In addition, Miss Miriam, Miss Carmela and Miss Lucy discussed that this approach eased the way for them to wait and listen for the children to express themselves because they joined them in the development of the tasks. Furthermore, Miss Philippa and Miss Nina asserted that the children experienced real-life problem-solving techniques because they were encouraged to investigate whenever they felt the need. Additionally, Miss Melita and Miss Dolores claimed that learning was fun and they were sure that the children were going to continue talking of Bella till the end of the scholastic year. Another benefit mentioned by Miss Victoria

and Miss Rosaria was that they were able to observe the children reflecting before talking or acting.

Given that all the educators in all the FCs agreed on the benefits of the emergent and IBL curriculum, they were asked if they intended to adopt it as their curricular approach and try out a project on their own. In all the FCs, there was the agreement that it was doable and that they were going to help each other to try it out on their own. To these assertions, I asked each group what has convinced them and different reasons were given. Two principal motives emerged in all groups. The first one was that the project enabled them to provide a programme that enabled the children to use the thinking skills mentioned in the LOF (DQSE, 2015). The other reason was that they could make the learning experience meaningful and enjoyable for the children but at the same time, they could fulfil their duty of teaching academic content as they are expected. Miss Philippa depicted this point when she stated:

When I saw the activities I said to myself that it is not difficult to do. How interesting things can be and still manage to teach what I am expected! Because my main worry is always the same. But you know, you made me think! It can be done!
(Miss Philippa, 2nd FC)

In addition, they also commented that they were able to engage the learners in activities they have always thought would be impossible to do in a kindergarten setting. For instance, Miss Nina asserted that she was surprised that they did a block graph with the learners, something that she had never seen being done in a kindergarten setting because there has always been the perception that the learners were too young “for those kinds of things” (Miss Nina, 2nd FC). Miss Victoria was very passionate about this matter because she said that this was the way she was taught how to teach but the circumstances were restricting her from doing so. She claimed that for the first time she had developed a “real” (Miss Victoria, 2nd FC) project because normally she elicited

the topic from the learners' interests and planned related activities instead of moving forward with the project. Looking at me in the eye, Miss Victoria told me:

*“Now I have the hope of seeing things changing so that finally, I can teach as I love; teach as I am convinced I should do”
(Miss Victoria, 2nd FC)*

As justification in favour of the approach, she explained how the children have learnt about the parts of the train and various types of trains. She referred to how the children have learnt from each other as happened in the case of Tiago who shared his own experiences and knowledge with his friends. She emphasised that the learners had the chance to practice “*group thinking*” (Miss Victoria, 2nd FC); something that she had never had the chance to do before. With regards to academic content, Miss Victoria asserted that the learners have learnt more than what was prescribed on the schemes. She claimed that she was also more confident and relaxed in the setting instead of always checking whether she was in line with the schemes. She said that the project allowed the children to practise skills such as counting, calculating and comparing in a meaningful way, when they needed them instead of making them use skills without any purpose as if they were “*loose ends*” (Miss Victoria, 2nd FC). Referring specifically to literacy, she asserted that it was “*crystal clear*” (Miss Victoria, 2nd FC) that the learners learnt much more since they were able to not just read the letters but recognise whole words and talk about trains using the correct vocabulary.

Miss Victoria also added that she wished that in the future, she would be given the chance to use all the available space in the school in order to have as much as resources as possible so that when she would notice that a child is after a particular inquiry, she could easily get him further resources and stimulating related material on the spur of the moment when the interest is high. Moreover, Miss Victoria stated that her aspiration was that she would be able to develop

projects together with Miss Miriam in the other setting as one whole group. However, she asserted that this required the goodwill from everyone.

Miss Rosaria, who participated in the same FC, agreed with Miss Victoria and added that these reasons proved why long term plans totally disregarded the interests of the learners. Both educators commented on the positive comments that they have received from the parents who told them how their children could not stop talking about trains at home and about the mobile train they were building in the setting.

Academic content was also debated in the four FCs. As for group work, Miss Victoria asserted that she was glad that she had the chance to approach academic content in a different way:

*I have always wished that I would be able to do it so that the children would see why they are learning the things they are learning. But I have to conform; abide by the rules.
(Miss Victoria, 2nd FC)*

The other three KGEs all said that they liked the way academic content had served to develop the projects and how it became purposeful for the children. They stated that it was much easier for them to teach it and for the children to assimilate it since it was taught while the interest of the children was high and the knowledge was needed to continue working on their task. Miss Miriam also pointed out that the fact that during the project the focus was on the process rather than on the finished product, helped her to develop a broader conceptualisation of learning and thinking:

*Now I know what you meant last time (referring to the 1st FC) when you said that thinking was different than what we were doing here. I got so obsessed with following the sequence of letters and numbers, that I ended up teaching only those and now I realise that that's not what we are supposed to understand by thinking.
(Miss Miriam, 2nd FC)*

Reflexive Box: 13

... Reaching the end of the projects I am pleased that they served as means to set off several mechanisms to cultivate children's thinking skills. The educators are now giving attention to thinking processes involved in learning and they are taking every opportunity to challenge children's thinking. Their actions suggest that they are in the process of refining and reconceptualising thinking. This may be another evidence that the practices they have used to cultivate thinking were resulting from lack of know-how.

6.5.4 Discussion.

The instructional pedagogy observed during the first phase of data collection favoured the prescribed curriculum, which as evidenced, was not leading the children to cultivate their thinking skills. The implementation of the project approach to IBL, modified the situation as learning was given a new dimension. The target of the activities was no longer the end product of each child but the understanding that stemmed out from the intersubjectivity shared between the learning partners that led to the production of the common task (Göncü, 1993). Now, understanding was given centre stage.

Consequently, the projects and their subsequent activities emerged and evolved according to the children's own interests. The children had the opportunity of pursuing their inquiries by planning and testing their own working theories collaboratively. Even though the children were not used to group work, their common interests gave them the input to work together and enjoy the benefits of working within the framework created by the project (Edwards et al., 1998).

As expected and maintained by Kaillala (2014) and Biermeier (2015), some children found it tougher than others to get involved with their peers and thus their educators had to intervene to help them interact and benefit from shared thinking. Referring back to Deborah, she was one of these children who even though she did not have any speech or behavioural difficulties, she still found it hard to integrate with the others. Her educators knew that she

preferred to work on her own because of this limitation and thus, ensured that they included other children in any conversation whenever she asked for support. Hence, as asserted by the above scholars, in such cases the intervention of the educators was indispensable to help children like Deborah avoid falling into the trap of being overlooked by the ongoing actions and consequently, still not benefit from project work.

Learning through contextualised experiences brought several benefits to the learning process and advanced the cultivation of thinking in multiple ways. Such benefits were both observed and recognised by the educators in their FCs. To start with, it enabled the children to reflect on what they were observed exploring (Dewey, 1938; Bruner, 1996). This reflection conducted them to ask more challenging questions as in the case of Karla. Her reflection on action directed her to question how the seeds of the trees got dispersed in the soil. Her inquiry led to a deeper understanding of the concept by means of internet searches. This episode also highlights the importance of listening to the inquiries of the children, giving them time to express themselves and enabling them to pursue these inquiries while the interest is still high (Areljung & Kelly-Ware, 2017; Gjems, 2010).

In addition, contextualised learning experiences enabled the children to get engaged in real-life problem-solving opportunities, which made learning purposeful and more interesting (Dewey, 1897). The children got easily absorbed in trying out their working theories. Referring for instance to Xitwa Setting, the children were highly engaged in testing their ideas in order to discover a possible technique to ride the boxes. In their collective inquiry, they processed the knowledge they already had, reasoned out different courses of action, tried them out and evaluated their outcome. When they were not satisfied with the outcome, they thought about other creative ways they could put to the test and tried them out. Throughout all this process, they also strengthened their metacognitive skills because they had to persist and learn from their

own mistakes (Costa & Kallick, 2008). As in the research conducted by Boncoddio, Dixon and Kelley (2010), the children arrived at their answer by trying out their own physical movements by jumping in the boxes and moving their legs. Their bodily actions helped them to understand how they could ride the boxes and led them to solve their inquiry. Therefore, experiential learning led these children to develop and strengthen their embodied cognition as well (Loeffler, Raab & Cañal-Bruland, 2016). Such episodes underscore the significance of allowing the children to explore their working theories, even if their ideas seem impractical to the educator because the learning process empowers them to cultivate their thinking skills across all areas.

As evinced by the observations and the educators, the project approach did not hinder or interfere with the academic progress of the learners. Instead, it removed the restrictions that were impeding the children from learning beyond what was prescribed in the schemes of work. Even the educators who were highly uncertain about this issue realised that academic content could be assimilated by the children more easily if they could be made aware of its purpose.

The fact that Miss Philippa still felt the need to make a particular activity on the letter she had in mind during that week has two implications. The first one is that with regards to curriculum changes, educators have to be given ample time by their leaders to try them out in order to own them and eventually include them in their daily practices (Brezicha et al., 2015). Secondly, it confirms that working theories, as recommended by Wood and Hedges (2016), could be the solution to conciliate the existing tensions in various ECEC systems generated by the accountability demanded from educators with regards to curriculum content and the view of the children as dynamic co-constructors of knowledge in their learning experiences.

The findings debated under this overarching theme indicate once again that the difference in qualifications and training (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter)

determined the starting point from where each KGE left with regards to knowledge of appropriate and innovative practices in ECEC. Whereas for Miss Melita, Miss Philippa and Miss Miriam this was the first time they were implementing an emergent and inquiry-based curriculum, for Miss Victoria this was the first time she felt she was developing an authentic project. Thus, the nature of the intervention enabled Miss Melita, Miss Philippa and Miss Miriam to apply new practices and supported Miss Victoria in refining her existing practices. A subtle difference which is important to outline is related to the phonic sounds which Miss Philippa and Miss Miriam wanted to amalgamate within their projects in order to avoid having a setback in their literacy schemes. Both KGEs had equal qualifications and years of experience, however, they did not act similarly. Once the project started, Miss Miriam soon realized that there was no need to do a specific activity on the phonic sound whereas Miss Philippa insisted and carried on with the activity. These reactions indicate that besides qualifications and years of experience, individual readiness to change is a crucial determinant factor in the process of change (Peterson & Baker, 2011). Referring to the TTM of change (Prochaska & DiClemente, 1983) debated in the Methodology Chapter, it may be argued that in this case, Miss Miriam was moving from the stage of contemplation to the stage of preparation since she changed her mind. In contrast, Miss Philippa seems to be still in the contemplation phase as she decided to proceed with her activity (Prochaska & DiClemente, 1983). It was at a later stage of the project that she appeared more convinced in her stance to move towards the next step of her changing process.

6.6 Interpreting the process of change of the KGEs in light of the Theory of Change

The theory of change (TOC) (Figure 4.6) illustrated in the Methodology chapter depicts a linear process which could be followed in a logical sequence by educators from the lower levels up to the long-term goal. However, change is a human venture and educational change does not

proceed in defined phases (Fullan 2007; Hargreaves, 2005). Thus, although all the KGEs moved in the same direction, they experienced the process differently due to the variation in qualifications, experience and personality. In this section, I shall discuss the ways through which I worked with each individual KGE in order to support them to proceed along their continuum of change (Fullan 2007).

I have to start from external factors because these were the issues which could not be controlled or changed but which had a substantial impact on the application of the TOC (refer to Figure 4.6 in Chapter 4). According to Fullan (2007), external issues such as the national context are one of the three interactive factors that influence the implementation of changing processes in education and the findings of this research endorse the validity of that argument. As indicated in the previous discussions, the Maltese educational system is regulated by the agreements between educational authorities and the Malta Union of Teachers. The reaction of the KGEs towards the ‘funds of knowledge’ approach (González et al., 2005; Moll et al., 1992) may be considered as an illustration of how local educators tend to react towards new reforms since these are generally evaluated against the stipulated agreements. This scenario accentuates the impact of macropolitics on the daily lives of the schools (Ball, 1987; Hargreaves, 2005). It sheds light on the power and control that macro-level forces have on education within the Maltese context, thus also on local educational change. Thus, in this case, it may be argued that the local context may have fuelled teacher resistance that was considered as the barrier (B3) hindering the accomplishment of the outcome associated with the change in beliefs and long-held assumptions on the TOC (refer to Figure 4.6 in Chapter 4). In fact, qualifications and experience did not make any difference because all the KGEs had a similar reaction.

The findings discussed in Chapter 5 clearly indicated that the TOC could not be applied with the four KGEs at the same pace due to differences in qualifications, experience and teacher

identity. Even though the changing processes of Miss Melita, Miss Philippa and Miss Miriam may seem analogous because they had very similar qualifications and years of experience, their courses of change were still characterized by subtle differences in their level of readiness to change (Peterson & Baker, 2011) and teacher identity (Lightfoot & Frost, 2015). The changing process of Miss Victoria also necessitated a particular approach since it had to be appropriate to her professional profile. Thus, I aimed at engaging in a reculturing process because I wanted to avoid having these changes ending up as another cosmetic change (Fullan & Hargreaves, 1991; Miller, 2005). Reculturing helps to form networks between the aims of education, the principles, culture and leadership of the educational context and the identity of the educators and thus, it increases the chances for real and meaningful change to take place (Fink & Stoll, 2005; Fullan, 2007).

Accordingly, on account of the variations between the KGEs and in line with the advocacy in Peterson and Baker (2011) that leaders have to be mindful of the point of departure of each individual ECEC educator, I sought a theoretical framework that would assist me in understanding how I could support each KGE in the reculturing process. The TTM was selected to guide my understanding of the readiness to change the level of each KGE and the support that I offered accordingly. Even though the interventions were short because they took place within the limitations of the study and educational change does not happen expeditiously (Fullan, 2007; Hargreaves, 2005), the KGEs were still observed proceeding through the six stages and experiencing most of the ten processes. The messiness and complexity of educational change were still revealed. In the remaining sections, I shall discuss how the TOC was experienced differently by each KGE to demonstrate the reculturing process for each of them.

Miss Melita was the KGE in Rebbiegha Setting. She possessed a Certificate of Achievement and had twenty-four years of experience in kindergarten (refer to Section 4.6.2 in

Chapter 4). Referring to the stages of the TTM, it may be argued that before attending the workshops, the point of departure on the continuum of change for Miss Melita was the contemplation stage (Stage 2) for two reasons. First, she was willing to take part in the research. Secondly, her reactions, for example, answering her own questions when the children did not give her any feedback, indicated that she already sensed that there was an issue. She was using her existing strategies to address it or justify it according to her knowledge of cognitive maturational and developmental theories (Piaget, 1950). The workshop enabled her to solidify her contemplation stage (Stage 2) as she gained knowledge of new pedagogical approaches and engaged in reflection on her own practice for the first time. The workshop gave rise to a number of changing processes as she became more conscious of the situation (Process 1), expressed her concern (Process 2) and recognised that her practice was not in line with the principles of ECEC (Process 3). Through reflective practice, she also experienced the process of environmental reevaluation (Process 4). I focused particularly on professional development and introduced her to reflective teaching, which is considered as the “bedrock of professional growth” (Wood and Bennett, 2000, p. 636). As in Wood and Bennett (2000), focused reflection enabled her to become aware of her assumptions.

These processes enabled Miss Melita to proceed along her continuum of change and advance to the preparation stage (Stage 3) in which she went through the processes of social liberation (Process 5) and self-liberation (Process 6) as she expressed her trust in me to guide her along the whole process and wanted to proceed with the intervention. I had to guide her substantially even in the identification of the project as discussed in the Methodology chapter. Progressively, Miss Melita moved to action (Stage 4) in which she started to experiment with the implementation of the new practices. Her motivation transpired through the reorganisation of the setting to display the evolving project of the children. The introduction of the method of asking

the children to touch their forehead before intervening in order to allow themselves enough time to think may indicate that she also went through the process of stimulus control (Process 7). The method may have been used to serve her as a reminder to implement the new approaches. During the implementation of the project, that is the action stage (Stage 4), the quotidian discussions proved to be highly beneficial for the progress in the process of change. Reflecting on the daily events made it possible for Miss Melita to avoid using old methods and to receive the support she needed all along the intervention. Thus, she had the possibility of experiencing counter conditioning (Process 8), reinforcement management (Process 9) and helping relationships (Process 10) which enabled her to uphold the new practices and move to the maintenance stage (Stage 5).

In Sajf Setting the KGE was Miss Philippa, who had KG/Nursery Teacher's Certification and twenty-three years of experience. In light of the findings debated in Chapter 5, it could be claimed that Miss Philippa's stage of pre-contemplation (Stage 1) was longer when compared to that of the other KGEs. It seems that her first stage lasted till the end of the workshop when she remarked that observation would give life to learning and teaching. Even though she wanted to take part in the research because she aspired to learn about new practices related to thinking skills in young children, she was quite convinced during the first focused conversation that the Show and Tell and craft activities were enough for the children to foster their thinking skills and that in her case, there was not much room for improvement. Given that this was insider research and thus, I knew the personality of Miss Philippa and in view of the literature which highlights the impact of teacher personality on the process of change, I was sensitive to her reactions and acknowledged that she needed more time for self-reflection than the others to become aware of the situation (Huberman, 1988; Sikes, 1992). When she came for the workshop, her behaviour transpired that she was still of the same opinion. Nevertheless, eventually, as we engaged in

reflective practice (Process 4), her comments revealed that she had gone through consciousness-raising (Process 1) and self-reevaluation (Process 3) because by referring to her comment on observations during the focused conversation, she said that now she was in a position to recognise its value in informing the learning process.

Due to her character, I could not determine whether she went through dramatic relief (Process 2) or not because she did not show any particular emotions. Moreover, at that point I could not decipher if her behaviour was transpiring micropolitical issues because as a veteran KGE, she could have been behaving in that manner to express resistance (Blase, 2005). Thus, the way in which this situation developed highlights the unpredictability of educational change because her progress could not be determined straightforwardly. As maintained by (Fullan, 2007), changes in beliefs, are difficult to perceive because they are usually implicit and it was through reflective practice that I could notice the first changes in her ideas, indicating that she had reached the contemplation phase (Stage 2). She looked forward for preparation (Stage 3) and self-liberation (Process 6) once she became aware of the support from my end (Process 5). In order to avoid having the sense of loss, anxiety and struggle jeopardizing her agency to change (Fullan 2007; Hargreaves, 2005), we planned all the preparations together and I ensured that she had all the resources that she needed for the intervention. I did not want her to feel overwhelmed and give up at the outset because as maintained by Fullan (2007), real change needs time and this study only constituted the initial steps of the process of change towards the cultivation of a pedagogy of thinking.

The support paved the way towards action (Stage 4). At the beginning, Miss Philippa did not show the enthusiasm of the other KGEs but once she saw the difference in the children's interest and reasoning, she showed that she was slowly embracing the changes. This became evident both in her behaviour in the setting as well as in the daily discussions after the

observations. The reflective dialogues of the daily discussions were crucial in enabling her to reflect on her own practice and gradually change her perspectives according to her experience (Wood and Bennett, 2000).

Since I was after setting in motion meaningful change, I ensured that I was adopting the evolutionary perspective to change rather than the fidelity perspective (Fullan, 2007). The evolutionary approach permitted her to mould her perspectives according to her own context and practice (Fullan, 2007). Miss Philippa referred to the displays as the evidence of the changes that she was noticing in the thinking of the children and thus, it could be that they became her stimulus control (Process 7) to implement the new practices.

Instability formed part of the changing process of Miss Philippa. During the intervention, she was the only one who remained adamant and did a specific literacy lesson following instructional pedagogy. This episode highlighted the unpredictability of educational change because even though she seemed to proceed along her continuum of change, it could be that she was still unsure and felt a sense of loss created by the uncertainty that she were experiencing (Schön, 1971). This indicated that by the end of the intervention, Miss Philippa did not reach the maintenance stage (Stage 5). A longer intervention could have allowed her enough time for counterconditioning (Process 7), therefore, discuss the changes with her colleagues and avoid lapsing back to traditional approaches, for more reinforcement management (Process 9) and more interpersonal support (Process 10). She would have been in a better position and have more enhanced evidence on which to ground her assertion of wishing to proceed with the new practices even though she was going to retire in a few years.

Miss Miriam, the KGE in Harifa Setting owned the KG/Nursery Teacher's Certification and twenty-two years of experience, thus, her professional profile was analogous to Miss

Philippa's. Her perception of children's thinking was aligned to that of Miss Melita and Miss Philippa since it was grounded on cognitive maturational and developmental theories (Piaget, 1950). In her comments, she seemed to accept the situation and thus, it could be argued that the starting point for Miss Miriam was the pre-contemplation stage (Stage 1). Similar to Miss Melita, she was receptive to the concepts discussed in the workshop and immediately expressed the need for support (Stage 2). Hence, the workshop served for consciousness-raising (Process 1), for self-reevaluation (Process 3) and for environmental reevaluation (Process 4). It also assisted her dramatic relief process (Process 2) because her concern could be sensed in her tone of voice. For Miss Miriam, self-reevaluation (Process 3) and environmental reevaluation (Process 4) carried on during the preparation meeting because she wished to resume the reflective discussions of the workshop and made comparisons with her practice. Having given her enough time to voice her ideas and discuss them enabled her to become aware of my support (Process 5) and to take a more informed decision to implement the innovative practices (Process 6). She needed to feel more confident about the new changes and the situation revealed the anxiety that ECEC educators may experience every time a change is introduced (Day, 2011; Lightfoot and Frost, 2015). Although the experiential processes were longer for Miss Miriam, they accelerated the preparation stage (Stage 3) because she could better understand the plan of action. Nevertheless, as Miss Melita and Miss Philippa, she proceeded to action (Stage 4) uncertain about how the children were going to learn academic content while pursuing their interests. Her apprehension about the new practices did not only emerge during the daily discussions but also during the intervention itself. Even though the project was developing according to the interests of the children and the outcomes were being reached, she still required reassurance from my end. Thus, in her case, the stimulus (Process 7), counter conditioning (Process 8) and reinforcement (Process 9) received during the action were crucial for her to feel confident and proceed with the implementation. Miss Miriam was willing to persist with the new approaches but it was evident

that in order to proceed to the maintenance stage (Stage 5), she required further interpersonal support (Process 10).

As for Miss Victoria, who already had the knowledge of the pedagogical practices that I was suggesting, the process of reculturing had to be addressed from another angle. Her arguments indicated that she was used to reflection but required support to bridge the gap between her principles and the reality she was facing in the setting. She was frustrated because she felt constrained by the context which was not allowing her to implement her knowledge in practice. Her situation could be compared to that of the novice teacher called Gina in Wood and Bennett (2000), who questioned the disparity between her ideologies and practice.

Thus, Miss Victoria departed from the contemplation stage (Stage 2) and her arguments and reactions in the first focused conversation suggested that on an individual level, she had already gone through consciousness-raising (Process 1), dramatic relief (Process 2) self-reevaluation (Process 3) and environmental reevaluation (Process 4). Thus, I used the reflective dialogue of the workshop to enable her to realise that the school was also addressing its cultural norms since this was insider research carried out by someone in a position of power and the headteacher gave her consent for the study. She recognized that the political ideologies of the school were becoming closer to her own (Process 5). As her colleagues were slowly embracing the same practices, she understood that shared meaning was being created and it motivated her to persist in her own principles (Fullan, 2007). The whole context gave her a sense of hope and agency (Bullough, 2011). This motivated her further to prepare (Stage 3) for the intervention in order to implement the approaches that she wished she could apply with her children (Process 6). Miss Victoria could not wait to engage in action (Stage 4) and her motivation ruled out any need for any stimulus (Process 7) to encourage her to proceed with the change. During the second focused conversation, she expressed her aspiration of maintaining the same practices after

the intervention (Stage 5). Thus, in her case, she did not require counter conditioning (Process 8) and reinforcement (Process 9). However, as she remarked, she looked forward to interpersonal support from the school administration to be able to maintain the changes in practice (Process 10).

In this section, I debated the challenges that emerged throughout the process of change by macropolitical issues and factors related to each particular KGE. The process of change proved to be a complex one and even though the four settings were situated within two small schools with a relatively similar context, it differed as each KGE started from her own point of departure. En route, each process was moulded according to the personality of particular KGE, respecting her qualifications, experience, character traits and political ideologies. As a result, as explained above, not all KGEs went through the ten processes and the five stages of the TTM. Thus, the minor outcomes of the TOC were not reached at the same pace and all efforts led towards the achievement of the long-term outcome.

Given the limitations of this research, there was not enough time for the KGEs to terminate the changing process and to ascertain that the long-term outcome of the TOC was fulfilled. However, the intervention contributed towards the achievement of the three preconditions beneath the long-term outcome. Thus, it could be argued that the TOC, within the limited timeframe proved to be beneficial in setting in motion a transformative process and setting the first steps towards a pedagogy of thinking.

6.7 Conclusion

As indicated throughout the chapter, several changes were enacted with the intention of generating a pedagogy of thinking. The findings indicate that some of them bore immediate

results while others required more attention and thought. In chapter 7, the attention turns towards the ways in which the children have demonstrated their thinking skills in action.

Chapter 7: The Implementation of Thinking Skills in Practice

7.1 Introduction to Chapter

After having answered the second research question from the point of view of how the pedagogy, interactions, acquisition of new knowledge and curriculum practices were transformed in the settings in order to empower the children to think, the locus of attention is now shifted on another aspect of the second research question. Here, I specifically focus on the thinking skills that the learners were observed putting into practice throughout the intervention. Therefore, I address the second sub-question, which is:

ii. In what ways have the learners demonstrated that the intervention has advanced their thinking skills?

To this end, in this chapter the findings of the final overarching theme “Categories of Thinking Skills” are presented and debated. Figure 7.1 is a summary of the thinking skills that the children have applied while addressing their working theories. These are grouped according to the five key categories that emerged from the data, which are: Information Processing, Problem Solving, Critical Thinking and Reasoning, Creative Thinking and Metacognition.

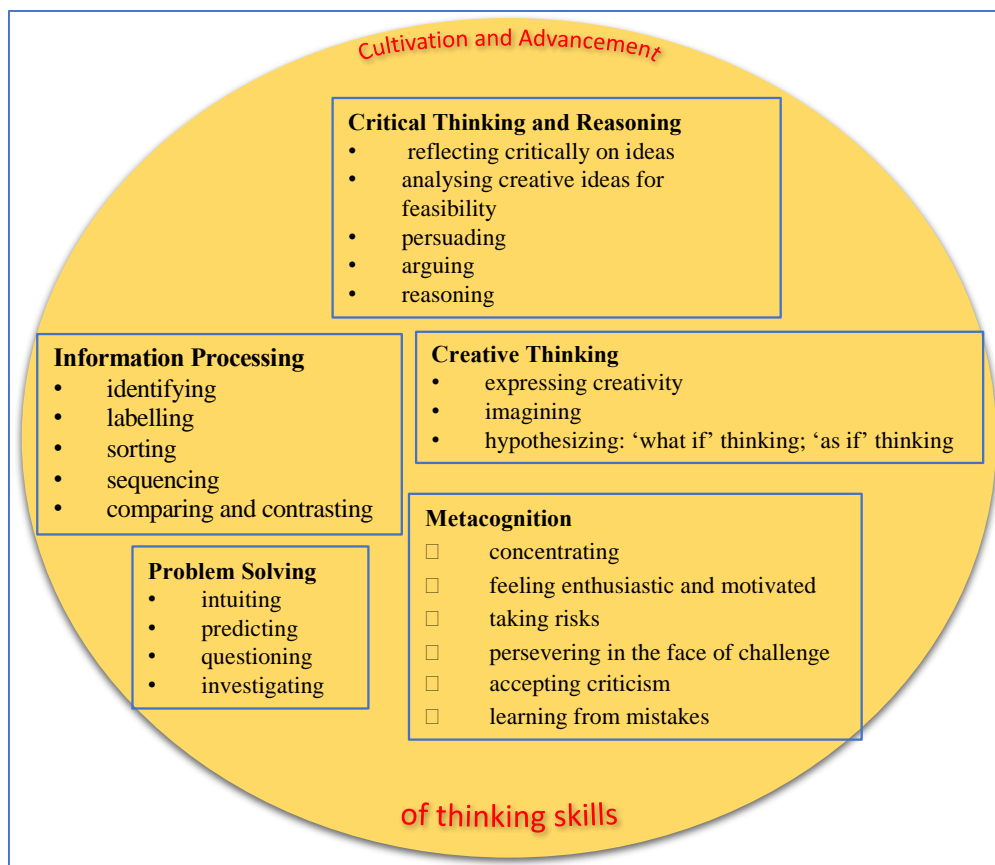


Figure 7.1: The thinking skills that were observed being applied by the children

In the sections that follow, I will present concrete examples as evidence to elucidate how the children used these thinking skills in practice throughout the projects. Even though the children’s working theories generally involved the interdependence of more than one category of thinking skills, here I discuss each area as a subsidiary theme. In the final section, I relate the findings to the qualifications and experience of the KGEs to achieve a deeper understanding on whether the changes in the KGEs resulted from either their training and experience or from the nature and quality of the intervention.

As in the two previous chapters, two tables are presented as examples to delineate the specific linkage between the raw data and the findings. The first one is in Section 7.3; Table 7.1 identifies the raw data that led to the findings presented in this section. In Section 7.4,

Table 7.2 represents the explicit linkage between the raw data and the findings related to the application of critical thinking and reasoning skills by the children.

7.2 Subsidiary Theme 1: Application of Information Processing Thinking Skills

Information processing skills include those cognitive aptitudes such as identifying, classifying, sequencing, comparing and examining part/whole relationships that are used to manage the information that was previously gathered (Fisher, 1999). From the first FCs with the educators, I gathered that this was the only area of thinking skills that was sometimes practised in the settings before the intervention. Throughout the projects, all the learners, at one point or another of the projects, were noticed practising basic thinking skills associated with information processing.

The initial part of the projects enabled the children to process the information they knew about the chosen topic and share it with their peers. Furthermore, information processing skills were also practised by the learners throughout the actual implementation of the projects. With regards to identifying and labelling, all the learners had to recognise and label the items at hand at some point during their group work. For instance, in Harifa Setting some of the learners were observed recognising the parts of a tree and labelling them verbally. The words were then written down by their educator to indicate what the child meant (Figure 7.2).



Figure 7.2: Examples of children's work in Harifa Setting that show what the children meant with their drawings

I noticed that generally, sorting and sequencing came after recognising and labelling as most of the learners moved on to these skills soon after being able to identify objects. The learners practised these skills mostly with the items they found in the sensory bins and the resources that were added to the settings in relation to the topic. For instance, in Xitwa Setting, the learners grouped their toy trains according to size and in Rebbiegħa Setting, some learners were observed sequencing the ornaments that they found in the sensory bins, which their educators then encouraged them to use in the preparations of the cards and the presents.

It was observed that whereas it was easier for the learners to identify, label, sort and sequence, they needed the impetus of their educators to start comparing and noticing similarities and differences. For instance, while discussing healthy food in Sajf Setting, Miss Philippa encouraged them to take out their lunches and observe the varieties. The learners noticed that there were four types, mainly fruit, vegetables, bread and cereals. They noticed that the majority of them had bread but few had vegetable items. The KGE encouraged them to get more vegetables for lunch. Every day the learners asked their KGE to repeat the activity and compare the vegetables their parents had put in their lunch boxes. The learners were very happy to see that the number of learners with an additional vegetable item increased every day (Figure 7.3).



Figure 7.3: Comparing varieties of lunches

As can be deduced, thinking skills associated with information-processing were practised by the learners throughout the projects. They formed part of exploration and investigation which involved other higher-order thinking skills associated with problem-solving, which is discussed next.

7.3 Subsidiary Theme 2: Application of Problem Solving Skills

Table 7.1 is one of the two examples provided in this chapter to demonstrate the explicit linkage between the raw data and the claims. It summarises the raw data by indicating specific vignettes and the particular thinking skills related to problem solving, listed on the protocol, that were observed being applied by the children. The subsequent discussion debates this raw data.

<u>Vignettes</u>	<u>Thinking Skills for Problem Solving (Protocol)</u>			
	<u>Predicting</u>	<u>Asking questions</u>	<u>Investigating</u>	<u>Is curious to explore more</u>
Observation 8(SS-4) Keith's interest in healthiest drink leading to whole group interest and exploration	✓	✓		
Observation 10 (SS-5) Experiment in response to Keith’s inquiry on the healthiest drink			✓	✓
Observation 7(RS-4) Exploring and discovering colour mixtures	✓	✓	✓	✓
Observation 28(XS-4) Discussing the construction of the train, Tiago as MKO explaining and answering the other children's questions on trains	✓	✓	✓	✓
Observation 29(XS-5) Discussing the construction of the train, Tiago as MKO assisting the others throughout the construction of the train	✓	✓	✓	✓
Observation 30(XS-6) Discussing the construction of the train, Tiago as MKO, group thinking to solve mobility issue [(Stephen & Samuel - wool string), (Denzel & Michael - tape), (Samuel, Tiago, Zayne & Stephen - wide string)]	✓	✓	✓	✓
Observation 17(HS-2) Mark as MKO on trees in class discussion		✓		✓
Observation 18(HS-3) Mark as MKO during fieldwork		✓	✓	✓
Observation 21(HS-6) Mark as MKO during planting activity		✓		✓
Observation 14(SS-7) Investigating different tastes of fruit	✓	✓	✓	✓

Table 7.1: Linkage between the raw data and the findings related to problem solving skills

Problem-solving refers to the unclear process undertaken to transform the known status of a difficult situation or a challenging matter into a different one (Dostál, 2015).

Experience in problem-solving was limited in the settings as debated in Chapter 5. During the first FCs, the educators found it hard to describe an episode in which their learners have been engaged in using related strategies. Enabling the children to work on their “islands of interests” (Davis et al. 2012, p. 1) gave them the opportunity to engage in problem-solving strategies. The three main related thinking skills that were observed were prediction, questioning and investigation.

As advocated by Bruner (1977), problem-solving empowered the children to develop intuition as they began to predict potential solutions to their inquiries. When a child posed a question that most commonly emanated from a previous activity or during the completion of a task, the educators involved the other learners in shared thinking and encouraged them to think and give their prediction before planning any course of action through which they could find out. Scribner-MacLean (2012) reminds us of two criteria when making predictions. First, to make a prediction, we need to refer to our existing knowledge and experience. Secondly, predictions have to be substantiated by a valid reason.

Predictions were noticed to sparkle motivation in the learners as these were observed to be very eager to carry out the subsequent investigation to check if their projection was correct. For instance, in Sajf Setting, a boy here referred to as Keith was interested in getting to know which was the healthiest drink after having explored healthy food. All the children were involved in trying to address this question and they were asked to mention their choice and give a reason why they thought it was the healthiest option. Although not all the reasons were valid, Miss Philippa and Miss Nina allowed everyone to give his/her opinion. Then Miss Philippa asked the children if they knew how they could verify their inquiry. They couldn't come up with a way through which they could investigate the matter and some of them suggested Miss Philippa to “google it up” (*Miss Philippa, 8th Obs.*) to get ideas. On this

proposal, Miss Philippa encouraged the children to suggest words she could use as searches and they found some experiments that could help them find out. Miss Philippa avoided giving hints that could reveal the answer. As advised by Dewey (1916), the choice of the experiment was decided democratically. The children indicated which experiment they preferred by show of hands. It consisted of putting eggs in different drinks, leaving them for several hours and then noticing the change in the colour of their shell. Thus, the day after, the experiment was carried out using eggs to explore which was the healthiest drink among the four options mentioned by the learners the day before, which were cola, ice-tea, orange juice and water. The learners were observed checking on the eggs several times during the following days to look for any changes in the colour of the eggshell in order to verify if their prediction was the correct one. The following day, during dismissal time, some parents told Miss Philippa that their children asked them to buy them eggs and the drinks used at school to repeat the experiment at home because they couldn't wait till the next day to verify if they were right in their prediction (Figure 7.4)



Figure 7.4: The children during the experiment

Asking questions was not only limited to the first phase of the projects. Instead, they became an essential part of the learning process for several reasons. First of all, because the more the learners discovered, the more they came up with questions which they wanted to

explore. For instance, in Rebbiegħa Setting, the learners asked how to get the colour pink and there was a discussion on which colours could be mixed to achieve it. Mixing red and white and mixing red and yellow were the two predictions given by the learners. The learners mixed these colours and were very excited when red and white turned into pink. However, interestingly, they got more excited when red and yellow turned into orange as they were not foreseeing this result. Consequently, they asked Miss Melita if they could try to get other colours and this new inquiry had to be attended to. Thus, they stopped from the activities they were doing and continued to explore with other colours since they wanted to investigate other combinations.

Moreover, the learners asked questions to gain further understanding of what they were doing. I observed that when the learners noticed that there was a child among them who was more knowledgeable than them on the task at hand, they did not hesitate to ask him or her instead of one of the educators. In two of the settings, I noticed that there were particular learners whom the others sought for this purpose. Referring to Xitwa Setting, Tiago was considered to be the “more knowledgeable other” (Vygotsky, 1978, p. 86) amongst them since he talked about his experiences of trains. Whenever there was a distinctive obstacle or query such as how to show that the front carriage contained the engine or how to tie the carriages together so that they could move flexibly, the learners always asked for Tiago’s help. In the case of Ħarifa Setting, they asked Mark several questions once they got to know that his father had a field. They asked him questions even during the other activities such as the planting activity and the fieldwork.

The predictions and the questions resulted in investigations and experiments that were carried out by the learners in anticipation. They were very eager to investigate and took these activities very seriously. Referring to one of the investigations carried out in Sajf Setting

which involved in response to a query about the different tastes of fruit, the learners were highly engaged and were able to move around the tables to taste different fruit and to mark which fruit they thought it was on their paper (Figure 7.5)



Figure 7.5: The children during the fruit tasting experiment

Sometimes the investigations were more cognitively challenging for the learners and demanded more time and thinking on their part. For instance, in Xitwa Setting, one of the major dilemmas that followed the creation of the carriages, was that of joining them tightly to each other in a way that they could move flexibly but still be connected like the carriages of a real train. It took more than a school day to find a good solution for this inquiry and different learners worked on it at different times of the day. Tiago was the one who got mostly preoccupied and spent most of his time looking through the books and at toy trains to try and find a solution. When this was noticed by one of the educators, they joined and dialogued with him to enable him to express his thinking.

Since it was something that concerned all the learners, they all got involved at one point or another and wanted to try out to check if their idea worked. Their educators took every opportunity to prompt the children to think of other possible solutions and put a box with various materials that could be used to attach things so as to give them ideas and stimulate their imagination. As advocated in Peters and Davis (2015), no working theory was

underestimated and every time the learners wanted to try out something different, they could get the material and carry out their investigation. For example, Stephen and Samuel used some wool string they found in the sensory box and tried it out with the help of Miss Victoria but noticed shortly that it was not strong enough to hold two carriages together. Denzel and Michael wanted to try using tape. They soon noticed that the carriages could not move flexibly. The result of each investigation was then evaluated as a whole group to see if it was successful. During this evaluation, the learners were encouraged to reflect on what was wrong and how it could be addressed in a different way (Dewey, 1938). Then, Samuel found a wide strong decorative string in the setting's resource box and they wanted to give it a try with the help of Miss Victoria. Tiago, Zayne, Stephen wanted to participate in his experiment and joined him in the corridor near the carriages (Figure 7.6). They found that it held the carriages tight together and allowed for flexibility of movement.



Figure 7.6: The boys while they were trying out the string

Reflexive Box: 14

... The interest and ownership of the children could be felt. They were really engaged, trying out their working theories to solve a problem that affected everyone. The most interesting part of it all was listening to their arguments while evaluating what went wrong and what could be done. The children showed expression of competence, collaboration and group problem-solving.

As demonstrated in the above examples, the children had various opportunities to practise problem-solving strategies. Engaging them in shared thinking to pursue a collaborative endeavour, allowing them to work on their intuitions and supporting them with resources were all beneficial for the children to flourish in their problem-solving skills (Bruner, 1977; Dewey, 1938).

7.4 Subsidiary Theme 3: Application of Critical Thinking and Reasoning Skills

Table 7.2 is the second example provided in this chapter to illustrate how the claims link directly to the raw data. It comprises three smaller tables which focus on the raw data collected in relation to critical thinking and reasoning skills. The first two present the raw data collected from the first and second set of FCs and the third one condenses the data collected through the observations. These are then debated in the subsequent discussion.

1stFC	<u>Educators' assumptions/ standpoint</u>	<u>Provided examples of usage of CT in learning activities</u>
Miss Victoria - (RS)	» justification for fostering Critical thinking skills	✓
All other educators	» assumption that children were still young	None

2ndFC	<u>Educators' assumptions/ standpoint</u>	<u>Provided examples of usage of CT in learning activities</u>
Miss Melita & Miss Dolores	» changed standpoint	Acknowledged the examples I mentioned
Miss Philippa & Miss Nina	» changed standpoint	Acknowledged the examples I
Miss Miss Miriam, Miss Lucy & Miss Carmela	» changed standpoint	Acknowledged the examples I mentioned
Miss Victoria & Miss Rosaria (XS)	» reinforced their standpoint	✓

<u>Vignette</u>	Thinking Skill for CT & R		
	<u>Protocol</u>	<u>Others</u>	<u>Usage of Persuas-ion</u>
	Logical thinking	Analytic and Critical thinking	
Observation 4(SS-2) Isabella and Vic's tummy	✓		✓
Observation 29(XS-5) Zayne while painting the carriage		✓	
Observations 3(RS-2), 5(RS-3), 7(RS-4), 9(RS-5), 13(RS-7) retrieval of prior knowledge to plan way forward	✓		✓
Observations Observation 28(XS-4), Observation 29(XS-5), 30(XS-6) constructing the mobile train		✓	
Observation 8(SS-4) Keith's interest in healthiest drink leading to whole group interest and exploration	✓		
Observation 19(HS-4) Emma's inquiry on seeds		✓	
Observation 12(SS-6) Fieldwork in school yard	✓		

Table 7.2: Linkage between the raw data and the findings related to critical thinking and reasoning

As a reminder, critical thinking enables decision-making based on knowledge by questioning our reasoning to ensure the validity of our arguments (Hanscomb, 2017). As indicated in Chapter 5, all but one of the educators commented that they rarely engaged their learners in critical thinking and reasoning because they didn't think the children were able to use such skills due to their very young age. Even referring to the projects, in the second FCs, it was hard for the same educators to mention episodes when the children used their critical thinking or thought in a logical fashion. However, critical thinking and reasoning were practised by the children in several circumstances during the projects and when I referred to these episodes, the educators acknowledged them and remarked that they did not know that those actions involved critical and logical thinking skills. It is interesting to highlight, that Miss Philippa and Miss Nina who were the ones who mostly asserted that the children were still young to exercise such thinking skills, were the ones who mostly engaged the children in critical thinking and reasoning during the intervention.

On the other hand, Miss Victoria, during her participation in the first FC, said that she tried to engage the children in critical thinking skills and reasoning whenever she had the possibility because in her opinion:

with such thinking children start to become aware of and to evaluate what's happening around them. Moreover, they do not choose something because they just like it, it's because they have a valid reason for choosing it.
(Miss Victoria, 1st FC)

She was observed engaging the children in critical thinking and reasoning on several occasions during the intervention as well.

Throughout the projects, critical thinking was encouraged and practised particularly during group discussions. The children were prompted to reflect critically and practise analytic thinking whenever there was a new inquiry and they came up with various possible

solutions (Bruner, 1996). For instance, in Sajf Setting, during the brainstorming activity on how to help Vic get in shape again, the children came up with several propositions including giving him healthy food, taking him to the playground and giving him vitamins. Isabella suggested cutting out his tummy. The others were puzzled at this idea; a few of them giggled and the rest looked at their educators for their reaction. In the same way, as in Peters and Davis (2015), Miss Philippa did not rule out this suggestion so as not to destroy the eagerness that Isabella showed in finding a solution. She took the opportunity to engage the children in a discussion in which each suggestion was given the same importance, as is expected in a democratic learning milieu (Dewey, 1916). She encouraged the children who came up with the ideas to give reasons for their choices (Hedges, 2014). Therefore, she enabled them to foster the skill of persuasion because they had to provide valid reasons to convince the others that their solution was better than those of their peers (Hargraves, 2014). In addition, her approach raised the awareness of the other children who were listening to analyse each idea before ruling out that it was invalid. Through this exercise, the consequences of each solution were evaluated and in the end, it was Isabella herself who concluded that there were other alternative ways which were more feasible and easier to execute than hers.

There were occasions in which the children passed a comment or behaved in a way that revealed their analytic thinking. In such cases, the educators engaged with them in order to learn what had driven them to pass that comment and to enable them to reason out a solution for the situation they had encountered. An example can be taken from Xitwa Setting when Zayne was painting one of the carriages in his favourite colour. He was using a small paintbrush and after some time he complained that he was going to take very long to paint the carriage box. Thus, his comment showed that he has evaluated the task and the resources he had at hand and realised that he was going to take long (Papatheodorou, 2009). Instead of

providing him with a direct solution, Miss Rosaria asked him to think about what he could change. After looking at his peers painting other carriages, and thus, analysing what others were doing, he told Miss Rosaria that he could use a larger paintbrush to cover a larger surface area with each stroke.

In other instances, the children showed that they based their reasoning on their prior knowledge before embarking on a task. For instance, in Rebbiegħa Setting, the children continuously referred to their own experiences of parties in order to deduce what needed to be done to organise a nice party for Bella. The construction of the mobile train in Xitwa Setting was a process characterised by reasoning on the part of the children, especially when they needed to determine how they could ride it and how they could attach the carriages in order to make it resemble a real train.

During other activities, reasoning was applied to raise the children's awareness that when there was no valid reason behind their choice, they couldn't say that their choice was the correct one without investigating the possible solutions (Fisher, 1999). This is what happened in Sajf Setting when some children wanted to get to know which was the healthiest drink and they guessed the answer according to their tastes. They were engaged in a dialogue by their educators to enable them to realise that they needed to investigate their predictions and in fact, they did so the following day.

There was an episode when the children's reasoning was so complex that it led to co-construction of knowledge between the children and the educators, which necessitated information from the internet. The educators did not know how to address the reflective thoughts raised by the children and thus, could not direct the children to their answer. This situation occurred in Ħarifa Setting, while the children were absorbed sorting and observing

different materials gathered during fieldwork. Emma commented that the seeds they collected from under the trees were larger to the ones they found in the fruit and said: “*So if the seeds are big, the tree is going to be big as well?*” (Emma, 19th Obs.). Sasha who was working on the same task intervened and said: “*but look at the oranges trees (pointing to the trees that could be seen from the setting) they are also big!*” (Sasha, 19th Obs.). To these remarks, Miss Carmela who was working with this group drew the attention of Miss Miriam and they were both surprised by these considerations. It was evident that the educators also got interested in this inquiry and they invited these children to look it up together on the internet while discussing what they were finding. Thus, in this case, the educators and the children were engaged in “reflexive co-construction” (Siraj-Blatchford, 2009, p. 153) that allowed for the application of higher-order thinking skills. This episode shows how beneficial it is for learning when as argued by Areljung and Kelly-Ware (2017), educators are not afraid to address a working theory even if it challenges their own knowledge and skills.

Reflexive Box: 15

△ ... Emma and Sasha showed the complexity of thinking that children can engage in. However, I was also impressed by the way the educators tackled the situation. The process of change has also reflected itself in the attitudes of the educators as they were not afraid to admit that they needed to learn more about what the children were asking about. I think that this was an example of authentic co-construction because knowledge was actually built for both partners.

In the Literature Review it was argued that when educators enable their children to be critical of their work, they also enable them to flourish in their creative thinking (Peters and Davis, 2015). Such an assertion was observed in this research as there were instances in which the children used critical and logical thinking simultaneously to assess the practicability of their creative ideas. Reasoning enabled the children to critically reflect on how their creative ideas could be adjusted to the context which they had to address. An

episode that illuminates this argument was witnessed in Sajf Setting with the group of children who conducted fieldwork in the schoolyard as part of their inquiry about what playground equipment and resources they would have liked to add in order to be able to exercise more. Miss Philippa encouraged them to consider the size of the yard, which was quite small. The children took their time to think and draw what they would have liked to have and their drawings included roller skates, a treehouse, a pool and some horses. This is an excerpt from the dialogue that followed between them and Miss Nina about the idea of the roller skates and the pool:

Miss Nina: *Let me see what you would like to have...*

Anthea: *roller skates.*

Miss Nina: *Good. Do you think that you have enough space where you can use them?*

Anthea: (looking at Miss Nina, thinking). *Yes, I can go around like that (indicating with her finger that she meant around the perimeter)*

Fred: *but you will bump into the other children*

Anthea: *no if I go around like that (indicating with her finger that she meant around the perimeter)*

Miss Nina: *and you Fred what did you draw?*

Fred: *a pool*

Anthea: *a pool? We don't have enough space for a pool. The yard is small.*

Fred: *But a small one like the one I have at home. Mum puts it away when I'm ready, she does not leave it in the yard.*

Miss Nina: *So you see, we can do a pool as well. Perhaps we can come and see yours first before buying one for the school if we will buy one. And you, Dorianne?*

Dorianne: *I would like horses.*

Miss Nina: *Do you think they can fit?*

Dorianne: *Ponies, better to have ponies.*

Miss Nina: *Perhaps they would fit better.
(Sajf Setting, 12th Obs.)*

Although within the framework of the LOF (DQSE, 2015), young children are only expected to “think logically” (p. 14), the above examples demonstrate that they are also capable of critical thinking. Thus, with the support of the educators, they have shown that they were capable of examining all the possible routes to address a challenging circumstance in order to identify the most feasible one (Daniel et al., 2012).

7.5 Subsidiary Theme 4: Application of Creative Thinking Skills

Creative thinking, which today is considered as key to high-quality thinking in all milieus, is the cognitive ability to invent original significant intangible and tangible products (He, 2017; Wegerif et al., 2015). As evinced and debated in Chapter 5, the children had limited opportunities through which they could be creative because the activities were all adult-initiated and highly controlled. During the workshops, videos and websites were used to encourage the educators to allow for the creativity of the children to flourish by allowing them to express themselves in multimodal ways (Malaguzzi, 1998). Possibility Thinking strategies were also discussed with the educators, encouraging them to pose “what if” and “as if” (Craft, 2015, p. 154) questions to the children as much as possible and enabling them to ask these questions themselves.

During the projects, the cultivation of creativity was one of the major challenges for both the educators and the children. The didactic teaching approaches that they were accustomed to implement in the settings, led the educators to underrate and minimise creativity since they were more focused on having the children tracing or drawing exactly as they had indicated. Creativity was also a challenge for the children as these were used to being told and instructed in everything they did.

Nevertheless, the project approach facilitated the process for both groups because in trying to pursue their working theories, the children were stimulated to be creative. Consequently, during the projects, there were several activities in which the children were observed expressing themselves in various creative ways. Starting with Rebbiegha Setting, creativity was noticed in the different gifts and cards that the children prepared for Bella. They also invented a different version of the song 'Happy birthday' to sing during the party. In Harifa Setting, the children expressed their imaginative ideas by drawing and constructing magical trees. As described in Chapter 6, one of the groups used the information they acquired on trees and woodlands to create a safe house for the elves (Fig. 6.15). An interesting activity in which they expressed their creativity followed after the children watched the videos on seed dispersal. Some of them started to move like the trees when they shook with the wind. The educators took everyone into the yard to have enough space where they could express themselves and show their understanding of seed dispersal through their bodily movements (Fig.7.7)



Figure 7.7: Pretending to be trees moving with the wind

As regards Xitwa Setting, the children expressed their creativity first and foremost by building the mobile train and using it during their playtime to imagine that they were visiting their relatives abroad (Fig. 6.16). Moreover, some of them invented stories and songs about trains as well. Miss Victoria encouraged these initiatives and gave them the time to perform

in front of their peers. Near the end of the project, their educators wanted to organise an activity to celebrate the fun they were having learning on trains. The purpose of this activity was to challenge the children to show what they have learnt about trains by being creative as much as possible. They asked them to prepare sandwiches in the form of small trains using bread, bananas, peanut butter and carrots. Whenever the children got stuck, their educators used questions to help them remember what they have learnt about the trains and thus figure out the next step. The end products mirrored both understanding and creativity (Fig. 7.8).



Figure 7.8: Creating train sandwiches

As advocated in Craft (2015), possibility thinking sets off the “engine” (p. 154) of creativity since the children do not stop at identifying something and learning its use but ponder about how they could capitalise on what they know in order to apply it and address their own inquiries. I observed that “what if” (Craft, 2015, p. 153) questions helped the children to generate hypotheses. The most interesting example was observed in Rebbiegħa Setting, in which the children got very interested in colour mixing. Edward was very happy when he mixed blue and yellow and got green. But then he complained, saying “this is not my green” (*Edward, 7th Obs.*). Upon hearing this, Miss Melita asked him what he meant and Edward said that *his* green was different. Miss Melita invited him to reflect about what he had done and by supporting him with “service questions” (Chappell et al., 2008, p. 276), helped him to think about what he could do to the mixture of green he had in order to achieve

the shade of green he wanted. With prompting, Edward said that since he got the green by mixing two colours, he could add another colour to the mixture. To this hypothesis, he was encouraged to say which colour he could add but he was undecided. The educator asked the other children if they could help Edward to find out which colour he could add to the mixture. Albert said that he had to use white or black because his mum had told him so. Subsequently, the educator helped them with “follow-through questions” (Chappell et al., 2008, p. 276), to help them arrive at the decision of dividing the mixture into two in order to try mixing both colours. The children who got interested in Edward’s inquiry joined him and they all got engaged in trying to find out the shade he was looking for.

In addition, there were instances in which the children were encouraged to move a step forward in their creative thinking and look at the matter through someone else’s lens by using “*as if thinking*” (Craft, 2015, p. 153). The use of these type of questions was mostly observed in Rebbiegħa Setting, Sajf Setting and Ħarifa Setting. Referring to Rebbiegħa Setting as an example, such questions were asked in relation to the cards, the presents, the food and the organisation of the party in general. The children were always invited to think about what would Bella think of what they were preparing for her.

In hindsight, the children had the opportunity to start fostering their creative thinking as well. The examples provided in this section demonstrate that children’s creativity flourishes when they are given the opportunity to express themselves.

7.6 Subsidiary Theme 5: Application of Metacognitive Skills

Metacognition is defined as the exceptional cognitive process of thinking about thinking, that necessitates the self-awareness of one’s own knowledge and of the processes used to acquire that knowledge (Chatzipanteli et al., 2014). Before the intervention, the

children were not encouraged to foster metacognition as it was their KGE who made the children aware of their mistakes and the only process used for acquiring new knowledge to which they were exposed was that of modelling everything according to their educators' samples and instructions.

Engaging the children in dialogues to share their thinking enabled them to foster their metacognition since they had to reflect on their own knowledge whenever they needed to voice their opinion (Siraj & Asani, 2015). Moreover, listening to each other's interventions gave them the opportunity to learn even to evaluate what their peers were saying, learn from their mistakes and use that knowledge to design a better way to address their task (Chatzipanteli et al., 2014).

The role of the educators was crucial in ascertaining that everyone took part in this process, even those who communicated through other modes (Larkin, 2015). As examples of such cases, there was Ruth in Xitwa Setting who communicated with Miss Victoria through body language due to her speech difficulties, Dean and Luca in Rebbiegħa Setting whose puzzled look informed Miss Melita that they were having a problem figuring out what to do and Deborah who looked at me to seek my help while preparing the purse.

Moreover, experiential learning contributed towards the cultivation of self-reflexivity by enabling the children to cultivate various thinking dispositions. To start with, the children fostered their concentration because they were absorbed in pursuing their inquiries. Throughout the previous chapter, there were various narrated episodes which manifest the concentration of the children on their task. The children also cultivated their motivation and enthusiasm because the activities were enjoyable and formed part of their working theories. As a result of this motivation, they dared to take risks such as in the case of the children in

Xitwa Setting who were not afraid to try out their ideas in order to attach the carriages of the train. Referring again to Xitwa Setting as an example, the children also persevered in the face of challenge as they continued with their trials until they found the appropriate material to use.

In addition, there were also instances in which the children accepted criticism and modified their thinking accordingly. An episode of a case in which the children accepted criticism from their educator was described earlier in this chapter in the critical thinking and reasoning section. As demonstrated in the dialogue transcribed during the observations in Sajf Setting, Miss Nina talked with the children about the creative drawings that they made about the equipment that they would have liked to have in their schoolyard. They acknowledged the criticism and adjusted their ideas to make them more practical. The same dialogue demonstrates that those children were capable of accepting criticism not only from Miss Nina but also from each other. Thus, the above instances indicate that the intervention was also beneficial for the children to foster metacognitive skills.

7.7 Relating the findings to the qualifications and training of the KGEs

The findings debated in this chapter give a strong indication that the nature and quality of the intervention were the determinant factors that enabled Miss Melita, Miss Philippa and Miss Miriam to modify their viewpoints on the ability of the children to engage in higher-order thinking beyond labelling and sequencing. Around twenty years ago, the discourses around child readiness and cognitive maturational and developmental theories dominated ECEC pedagogy (Rogoff, Matusov & White, 1996). Thus, it may be argued that since these three KGEs received their training during that time, they developed that perception according to their training (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter). Moreover, they stated that their professional development was always based on literacy and numeracy

skills and thus, they may never have had the opportunity to reflect on thinking skills and modify their perception. This endorses the argument in Fisher and Wood (2012) that although thinking is considered a critical area for children to develop, it is often side-tracked by mechanisms that are employed to favour selected learning areas, in this case, literacy and numeracy. Edwards (2009) argues that ECEC educators plan their activities and act according to the learning theories that they embrace. This was reflected in the activities of these three KGEs who, albeit having an average of twenty years of experience, still planned their activities and looked at the abilities of the children through the lens of developmentalism (Piaget, 1950).

The nature and quality of the intervention enabled them to gradually engage in reflection on their own practices, to gain new knowledge of innovative and appropriate approaches and to proceed on their continuum of change (Fullan, 1993). Miss Philippa, for instance, whose level of readiness to change according to the TTM Theory can be positioned on the stage of contemplation, was very hesitant, even during the project to let go of her usual practices (Prochaska & DiClemente, 1983). It was the intervention that enabled her to gradually observe the thinking abilities of the children in practice and eventually, she looked forward to proceed with the innovative approaches notwithstanding her retirement within a few years.

Referring to Miss Miriam, the characteristics of the intervention enabled her to start engaging with the children in a more meaningful way for the benefit of the learning process. The findings suggest that the intervention was the catalyst for her to modify her approach towards the children's ideas as she started to encourage them to share their opinions. This can be identified with changes of pedagogical approaches, which is the second of the three dimensions identified in Fullan (2007) as important when implementing educational change.

Moreover, it also involved other subtle changes as she became more receptive to the children's opinions. As explained by Fullan (2007), these changes, which form part of the third dimension, are the most difficult to take place. In this process, she challenged the position of power that she had during the first phase of the case study in which her viewpoint was the only one accepted in the setting. Progressively, she moved to the point in which she was not afraid to acknowledge that she also needed to learn more. As observed in the discussion on critical thinking and reasoning, this situation led to an episode of authentic co-construction.

With regards to Miss Melita, it can also be argued that it was the nature of the intervention rather than her qualifications that enabled her to introduce new practices that favoured the cultivation of thinking. The workshop and the discussions broadened her knowledge, which she then tried out in practice, such as possibility thinking strategies (Craft 2015). Besides adopting established approaches, reflective practice also empowered her to create a strategy for her specific group of children. She felt that through the simple tactile movement of touching their forehead, her children would remind themselves to think on a deeper level before giving their response and she would allow them more time to think.

Miss Victoria's position presents a different scenario to that of the other KGEs. Similarly to the others, she argued that during her training for the degree and the professional development she had attended, minimal emphasis was laid on the fostering of thinking skills in children. Thus, in this sense, qualifications did not make any difference (refer to Table 4.1 in Section 4.6.2 of the Methodology chapter). Nevertheless, her training made a difference when she started to engage the children in thinking once she was less restricted by the curriculum programme. In contrast to the other KGEs, she already had the knowledge of the ECEC practices applied during this case study. Her knowledge of the emergent curriculum

(Edwards, Gandini & Forman, 2012), IBL (Stacey, 2018), co-construction (Hedges & Cooper, 2018) and “pedagogy of listening” (Rinaldi, 2006 p. 15) empowered her to challenge the children to think on a deeper level.

7.8 Conclusion

The findings and their interpretation were divided in three chapters. Chapter 5 answered the first research question which sought to sharpen the awareness on how thinking was being cultivated in the children in the settings. Chapter 6 and this chapter focused on the second research question which aimed at revealing how and in what ways the learners’ thinking was advanced during the intervention in which the project approach to IBL was implemented. In this chapter, I focused exclusively on the ways in which the learners demonstrated that the intervention has empowered them to think. Examples were provided to evince how the learners have applied various thinking skills associated with information processing, problem-solving, critical thinking and reasoning, creative thinking and metacognition.

In the next and final chapter of this thesis, I start by presenting a synopsis of the findings. Subsequently, I draw on these key findings to discuss the implications for policy and practice. The contribution to knowledge, limitations and recommendations for future research also form part of the final chapter.

Chapter 8: Conclusion

8.1 Introduction to Chapter

The purpose of this research was to critically evaluate the implementation of an intervention, which used the project approach to an inquiry-based pedagogy, that aimed at understanding how thinking in three and four-year-old children can be cultivated and advanced in the Maltese context.

The study set off by gaining an informed understanding of the existing situation and subsequently implementing an intervention using the project approach to inquiry-based pedagogy to address these research questions:

- a. What practices currently exist to cultivate thinking skills in these learners?
- b. How and in what ways has the intervention, which used the project approach to inquiry-based pedagogy advanced the thinking skills of these learners?

The second research question had two subsidiary questions, which were:

- i. How were the pedagogy, interactions, acquisition of new knowledge and curriculum practices transformed in the settings in order to advance the thinking skills of the learners?
- ii. In what ways have the learners demonstrated that the intervention has advanced their thinking skills?

As from the introduction of this thesis, I acknowledged that this small-scale research signalled the beginning of a long journey towards creating a pedagogy of thinking within these schools. It served to activate the process of change that aimed to transform the practices related to pedagogy, interactions, the acquisition of new knowledge and curriculum in order to

create an enabling learning environment for the children to cultivate and advance their thinking processes.

Thus, I shall start with a synopsis of the findings, in which I explain how thinking has advanced with the introduction of relational pedagogy, dialogues, co-construction and emergent and IBL curriculum. In the following section, I amalgamate the findings within the conceptual framework developed in the Literature Review and define thinking skills within this context. Subsequently, I focus on how relational pedagogy was reconceptualised and implemented within this context and how it has served as a catalyst for a pedagogy of thinking. After, I return to the theory of change to reflect on the specific context of a Malta as a small nation that is influenced by its own histories and traditions, by supra-national discourses and by new ideas and approaches from other systems. The implications for policy and practice are then suggested underscoring the issues that need to be addressed for this journey of change to advance within these two schools. The chapter proceeds by delineating the limitations of the study and subsequently, its contribution to knowledge in terms of originality and significance. Next, recommendations for future research are proposed. The chapter comes to an end with some final reflective insights on this remarkable doctoral journey, highlighting how this qualitative research experience has influenced me personally and professionally.

8.2 The Findings

The findings indicated that within this particular Maltese context thinking in KG-aged children has advanced with the introduction of:

1. relational pedagogy that replaced the instructional pedagogical approach;
2. meaningful and purposeful dialogues that revitalised verbal interactions;

3. co-construction of new meaning that substituted the top-down model of knowledge transmission; and
4. an emergent and inquiry-based curriculum that replaced the prescribed curriculum model.

The following sections focus on each of these aspects sequentially. The discussions elucidate the achievements as well as the areas that require further attention. A diagrammatical synopsis of these findings was provided in Figure 6.1.

8.2.1 Thinking has advanced with the introduction of relational pedagogy

The findings indicate that thinking was cultivated when relational pedagogy was introduced because learning reflected real-life situations, emanated from the interests of the children and allowed the children to pursue their working theories (Peters and Davis, 2011; Hedges, 2014). Rather than focusing on content coverage and individual outcomes that generally consisted of handouts, with the introduction of a relational pedagogical framework, the learning process was given centre stage, giving the children ample opportunities to understand, think and reflect (Dewey, 1916). There was a shift in the conceptualisation of learning as it started to emanate from shared thinking, experiences, collaboration and meaningful interactions as advocated by Vygotsky (1978) and Dewey (1938) rather than from content accumulation. The educators started to consider the children as competent who, albeit still very young, had funds of knowledge that helped to advance the learning of the groups (González et al., 2005; Vygotsky, 1978). The educators began to realise that to enhance understanding and thinking skills, they needed to make room for the children to take an active role in the learning process (Dewey, 1938). The above arguments indicate that thinking has advanced with the introduction of relational pedagogy that replaced the instructional pedagogical approach.

Nevertheless, the findings revealed complex issues. The first one was the great reluctance on the part of the schools to build partnerships with parents. The interpretation that the educators and the Headteacher gave to cultural norms, maybe hiding other subtle barriers related to power relations associated with parental involvement (Hornby & Lafaele, 2011). Besides, propagating cultural hegemony (Mayo, 2014), this situation unveiled the complexities associated with the implementation of relational pedagogies based on the sociocultural potential of household and community practices, specifically, the funds of knowledge approach (Moll et al, 1992). These difficulties hinder the benefits that can be gained by the children when their educators are mindful of their funds of knowledge and build new learning experiences around them.

The second issue was related to the control that the educators still exerted on the children's theorising. Whilst acknowledging that dialogues became more meaningful and purposeful, it has to be recognised that in some instances it was evident that the educators posed questions in a way that diverted the interests of the children towards their own intentions. This issue highlights the importance of ongoing professional development that will focus on the recognition of the child as a competent partner in the learning process.

8.2.2 Thinking has advanced with the introduction of meaningful and purposeful dialogues that revitalised verbal interactions

The findings of the first phase of data collection indicate that verbal interactions were limited to closed questions that were used mostly to assess content acquisition. Eventually, verbal interactions started to take the shape of dialogues that formed an integral part of the learning process. Thus, verbal interactions became a significant tool for the cultivation of thinking. Dialogues enabled the children to transfer their prior knowledge to address new

inquiries that arose along with the projects (Luff, 2018). They led the children to reflect on each other's responses and plan novel courses of action collaboratively (Daniel et al., 2012). In addition, meaningful and focused dialogues gave the children the chance to critically analyse their own previous decisions and to be creative in their own ideas (Daniel et al., 2012). Moreover, such dialogic interactions paved the way to the cultivation of two high-quality thinking skills; persuasion and argumentation (Dovigo, 2016; Hargraves, 2014). These findings suggest that thinking has advanced with the introduction of meaningful and purposeful dialogues that revitalised verbal interactions.

The findings related to verbal interactions, however also indicate that the dialogues were, in some instances, controlled and deviated by the educators. The way in which these dialogues developed suggested that they were diverted to comply with the pre-established intentions of the educator rather than with the interests of the child.

8.2.3 Thinking has advanced with the introduction of co-construction of new meaning that substituted the top-down model of knowledge transmission

The findings denote that the intervention gave rise to the reconceptualization of the learning process. The acquisition of new knowledge was understood as the process through which the educators merely convey new knowledge to the children. As the projects proceeded, the process started to change into a collaborative endeavour in which the educators and the children interacted and worked in a concerted manner to create new understandings (Jordan, 2009). This meant that according to this new interpretation, the process started to reflect the notion of the ZPD as a phase during which new meaning is co-constructed between all collaborators, while they elaborate on each other's input (Valsiner, 2007). The intervention assisted the educators in starting to move away from 'scaffolding'; a process in which the educator simply segments a task in phases, towards co-construction, a process that

values the interests and thinking skills of the child and enhances intersubjectivity between the learning partners (Hedges, 2000; Purdon, 2016). During the projects, co-construction was used as a strategy for problem-solving both between the educators and the children and the children themselves, when one of them took on the role of the more knowledgeable other (Vygotsky, 1978). In some episodes, co-construction also gave the children the opportunity to use technology to search for information and reflect on what they have found as in Hedges and Cooper (2018). In view of the above, the findings indicate that thinking has advanced with the introduction of co-construction of new meaning that substituted the top-down model of knowledge transmission.

The findings on the acquisition of new understandings shed light on the resistance associated with the introduction of new practices that exist within the educational sector. There were instances when new practices were resisted as soon as they were mentioned; before being implemented and evaluated for their effectiveness.

8.2.4 Thinking has advanced with the introduction of an emergent and inquiry-based curriculum that replaced the prescribed curriculum model

The findings underscore the favourable influence brought about by the implementation of the emergent and inquiry-based curriculum on the cultivation of thinking. Instructional pedagogy was decontextualizing learning and did not consider the children's interests. Introducing the project approach to an inquiry-based pedagogy gradually transformed the curriculum into a living document whose design developed every day according to the emerging curiosities and concerns of the children. The interests and inquiries of the children progressively became the point of departure of the learning events, making learning meaningful and more interesting (Dewey, 1897). The children participated in collaborative experiential learning activities that enabled them to create new intersubjective understandings

(Edwards et al., 1998). Such curricular approach facilitated the inclusion of those children who tended to need that extra push by the educators to get involved in the activities set up in the settings (Biermeier, 2015; Kalliala, 2014). Within the framework of the projects, learning was based on experience and reflection-on-action (Bruner, 1996; Dewey, 1938). Owing to these findings, thinking has advanced with the introduction of an emergent and inquiry-based curriculum that replaced the prescribed curricular model.

Even though the findings demonstrated the achievement of several positive results, they also revealed the absence of professional development opportunities for these educators to keep abreast with research-informed practices that cultivate children's thinking. Moreover, the findings cast light on the complexities associated with change and development in the teaching profession that need to be sustained, ongoing, require the willingness and concerted effort of all stakeholders and planned long-term (Bredeson, 2000; Brezicha et al., 2015; Fullan, 2016).

8.3 Implications of the conceptual framework: Defining thinking skills in this context

The findings summarised in the previous section indicate that the fusion of the changes effected to pedagogy, verbal interactions, the process of developing new understandings and curriculum enabled the children to cultivate their thinking. They were observed practising thinking skills across the five categories: Information Processing, Problem Solving, Critical Thinking and Reasoning, Creative Thinking, and Metacognition (Fisher, 1987, 1998).

Consequently, the findings suggest that the conceptual framework developed in Chapter 2 (Figure 2.1) that amalgamates together the four theoretical constructs that emerged from the literature supported the advancement of thinking in three and four-year-old children

within this particular context. Figure 8.1 fits all the findings of the second research question summarised in Figure 6.1 and Figure 7.1 within the conceptual framework (Figure 2.1).

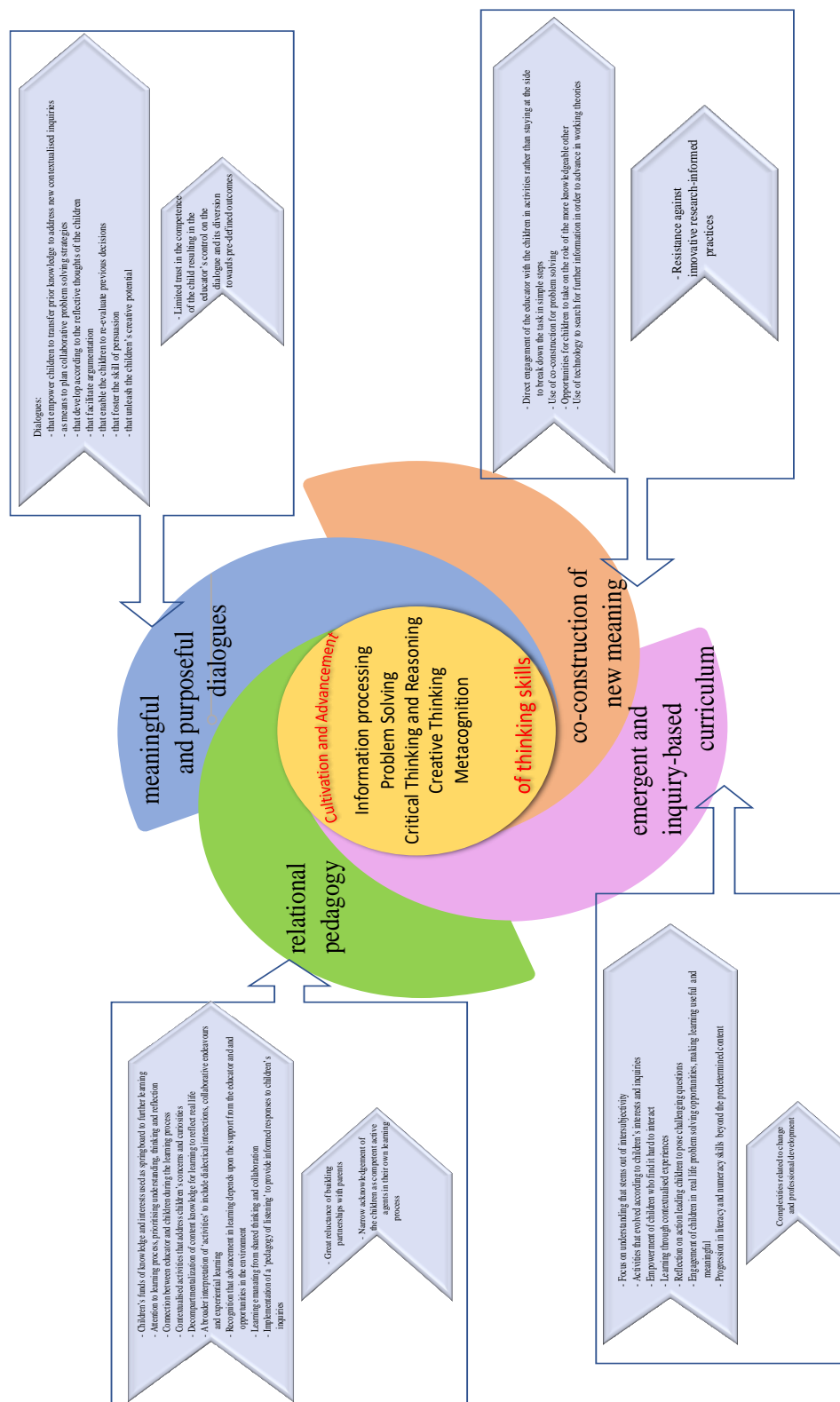


Figure 8.1: Amalgamation of findings within the conceptual framework of the research

By merging sociocultural theory and the theoretical constructs of the conceptual framework (Chapter 2), the Policy Review (Chapter 3), and the findings (Chapter 5, 6 and 7), a richer definition of thinking skills within this context could be attempted. As from the outset, it is immediately noticeable that the definition is complex due to the discrepancy between macrolevel policies and the local context of the schools. On a national level, the official policies stipulate that the fostering of thinking skills should be an integral part of early years education (DQSE, 2015; MEDE, 2012). If we had to merely rely on the mandated frameworks, we may be led to draw the hypothetical assumption that practice mirrors policy principles. However, this is erroneous since the mesolevel analysis of the situation in the settings discussed in Chapter 5 clearly indicated that within these two particular kindergarten schools, in practice, the fostering of thinking skills was very limited.

The intervention, which was grounded on sociocultural theoretical constructs revealed that the major impediment hindering the fostering of thinking in this context may be the deep-rooted societal assumptions on ECEC that exerts pressures to maintain the KG years as a preparatory period for formal education (Sollars, 2018). The system itself conveys conflicting messages; on one hand, it issues policies that favour early childhood development and its appropriate practice and on the other, expects educators to fill in assessment checklists, tacitly ascertaining the perpetuation of the dominant hegemonic discourse (Government of Malta, 2015). Moreover, it may be argued that the system sustains these societal demands even through the professional development offered to ECEC educators since training is principally focused on literacy and numeracy, covertly sending the message that these should remain the privileged areas of the ECEC programme (Fisher & Wood, 2012).

The ingrained societal assumptions permeated practice since the excessive emphasis on the achievement of the outcomes in the checklists by external authorities, the training

sessions that primarily focus on literacy and numeracy and the pressure of the parents to ensure that the children would be well-prepared for formal education led the participant KGEs to organise their programmes almost exclusively around the acquisition of numbers and letters. The qualifications and the experience of the KGEs did not make any difference; they all succumbed to the contextual pressures. As a result, thinking skills whose acquisition is explicitly advocated in the NCF (MEDE, 2012) and the LOF (DQSE, 2015) were side-tracked as the climate and the opportunities for the children to foster such skills were very limited.

The cultural context influenced and moulded the social climate of the settings, impacting heavily on the fostering of thinking skills in the children (Vygotsky, 1978). Within an environment dominated by instructional pedagogy, the children were trained to focus on accomplishing imposed tasks without questioning the purpose behind new knowledge (Peters, 2009). Their interests were not explored and the information that was shared between them and the educators during break time was not capitalised to assist the learning process (González et al., 2005). Sadly, despite their tender age, they had already internalised the false perception that learning is distinct from real life. In fact, similarly to their educators, their playful and cheerful attitudes during break time changed completely during formal instruction. Thus, it seemed that the context denied them the chance to experience learning as a process of living; as an exciting process through which they have to apply their thinking skills to acquire new knowledge in order to answer their inquiries (Dewey, 1879).

Referring to the settings' displays of children's work, these were repetitive and flawless providing limited opportunity for the children to use their observational skills to reflect on their learning (Zuckerman, 2003). The findings revealed that the KGEs considered the displays as a reflection of their professional identity (Lightfoot & Frost, 2015). For these educators, displays had to be perfect because they served as the medium through which their

colleagues and the parents of the children judged the extent to which they were effectively preparing the children for formal education. Thus, the children's hanging handouts were not only intended to show each child's acquisition of content but also as a metaphoric yardstick to measure the ability of the KGE in coaching the children for the primary years. Consequently, it could be argued that the displays symbolically illustrated the degree to which the contextual dominant assumptions have seized the learning process.

In conceptualising thinking skills within this context, it is essential to take into account that value attributed to the competence of the child. The findings disclosed the educators' narrow acknowledgement of the children as having the ability to take an active part in their own learning process (Dahlberg et al., 1999; Ellegard, 2004). This emerged from the power and control that the majority of the educators held over the voices of the children, who were observed being silenced whenever their opinions offered a challenge (Areljung & Kelly-Ware, 2017). In these cases, the internalised assumptions of the educators profoundly reduced the chances for the children to be engaged in collaborative challenging tasks which involved the application of thinking skills (Green & Gredler, 2002). The lack of knowledge of appropriate pedagogical approaches continued to worsen the situation in three of the four settings since any possibility of co-construction, which is one of the key elements in the fostering thinking skills, between the educators and the children was ruled out (Hedges & Cooper, 2018).

The contextual circumstances of the fourth setting varied slightly in this regard. In contrast with the other KGEs, Miss Victoria had the knowledge of the key theoretical constructs that shaped the intervention. However, the findings of the first phase revealed how she felt constrained by the established school culture to adapt herself rather than stimulate change. As the new teachers in Mahmood (2013), Miss Victoria felt overwhelmed by the

instituted cultural practices. In front of an episode of creative expression by Zayne, even though she knew that he was at the moment fascinated by tigers, she felt obliged to overlook the interest and follow the prescribed activities of the schemes. Such instances accentuate the responsibility of school leaders of supporting educators in particular during the first years of their career to face the “reality shock” (Mahmood, 2013, p. 161) as they need “nurturing and care as much as the children they work with” (Mahmood, 2013, p. 161).

The above arguments illuminated my earlier assertion that the definition of thinking skills within this context is complex and multifaceted. Nevertheless, this research offers a plausible way to address contextual circumstances. The findings of the intervention revealed that the application of the four key elements of the conceptual framework can broaden the possibility of bridging the gap between theory, policy and practice in this context. Moreover, the findings corroborated the claim posited in the Literature Review that relational pedagogy is the principal element among all four since it creates the optimal learning space for thinking skills to flourish (Papatheodorou, 2009). Given the contextual tensions, its introduction led to the changes that acted as a catalyst for the insertion of the other three elements, and in due course set off the process towards a pedagogy of thinking.

8.4 Relational pedagogy: the catalyst for a pedagogy of thinking

This section focuses on how the construct of relational pedagogy (Papatheodorou, 2009) was conceptualised and actualised to address the lack of attention given to thinking skills observed in practice bearing in mind the policy context. Referring back to the policy review, both Maltese frameworks (DQSE, 2015; MEDE, 2012) acknowledge the benefits of sociocultural principles (Vygotsky, 1978). The NCF (MEDE, 2012, p. 33) identifies the relationship between the educators and the children as the primary hallmark of effective early childhood pedagogy. The LOF (DQSE, 2015) goes a step further by accentuating the

significant role of the educator and other adults “in scaffolding children to build their competencies through “intent participation” (Rogoff, et al. 2003, p.176) and ‘structured interaction’ (McLeod, 2008)” (p. 29). Therefore, it may be argued that both mandated policies ground their assertions on the assumption that every kindergarten learning space embraces a pedagogy based on relationships and thus, learning processes are occurring within this framework.

Despite the above stipulations in the policy documents, the findings revealed that practice in these settings was taking place within a traditional pedagogical environment. Bearing in mind that relation pedagogy “offers the tools for attending to, unpacking, deconstructing and reconstructing cognitive and social relationships for learners to become reflective, critical, meaning-making and active citizens of today’s and tomorrow’s world” (Papatheodorou, 2009, p. 14), familiarising the educators with the concept became a priority. On account of the findings and the debate on the challenges experienced in relation to the process of change in Chapter 6, I entirely endorse the assertion in Hedges & Cooper (2018) that the creation of relational pedagogy is neither straightforward nor simple. Although the educators were all eager to learn new practices related to thinking skills, the findings indicated that the situation necessitated a reculturing process that would uproot the ingrained didactic approaches and introduce relational pedagogical practices in order to set the appropriate framework for all subsequent changes to occur (Fullan & Hargreaves, 1991; Miller, 2005). Real change needs time and given the limitations of the study, I had to be pragmatic and aimed at setting off a process of change along the three dimensions indicated by Fullan (2007): in learning resources, in learning practices and in beliefs. The details of the TOC were explained in the Methodology Chapter (Section 4.9).

The internalised assumptions of the educators divulged during the first phase demanded a reconceptualisation of the theoretical construct to suit the context. Due to the limited recognition of the children as competent active agents in their own learning process, I had to start by discussing fundamental principles of relational pedagogy that might be taken for granted in other contexts, mainly the consideration of the child as a competent learner, the importance of assisting children in pursuing their inquiries and the prioritisation of understanding over content accumulation (Brownlee, 2004). These conversations paved the way towards reflection which eventually revealed itself in the planning for the intervention as the educators themselves started to suggest ways in which even the physical environment of their setting had to be modified to be consistent with the new pedagogy (Schön, 1983; Wood & Bennett, 2000). However, it was through the intervention that the educators could perceive that relational pedagogy could be implemented in actual practice within their context (Hedges & Cooper, 2018). Once learning was based on the children's interests and as the projects unfolded, the relationships strengthened leading the children to feel confident to share their thoughts and contribute towards the progression of their collaborative endeavour (Papatheodorou, 2009). The comfortable atmosphere generated by the acknowledgement of the importance of relationships in learning, made possible the implementation of the other elements of the conceptual framework. It gave rise to meaningful interactions (van der Veen et al., 2017), episodes in which the educators engaged in co-construction with their learners, resulting into intersubjectivity (Göncü, 1993) and several opportunities for the children to pursue their common interests (Rankin, 1998), learn through experience (Dewey, 1938) and engage in "interthinking" (Littleton & Mercer, 2013, p.1). Within this pedagogy, it was possible for the educators to recognise the significant contribution that the children's funds of knowledge can give to the development of the learning process (Moll et al., 1992). Therefore, it may be argued that investing in the creation of relational pedagogy led to the application of

the other theoretical criteria and it was within such framework that there was an advancement in the thinking skills of the children as discussed in Chapters 6 and 7.

This research suggests that the creation of relational pedagogy is possible in the Maltese context and can advance young children's thinking skills as stipulated in the national documents. However, this calls for parallel changes in other dimensions such as assessment by the authorities in order to enable the society at large to recognise early years as a distinct life phase with specific needs and which requires appropriate practice (Robson & Flannery Quinn, 2015). Such changes would assist the efforts of local early childhood experts to lessen the deep-rooted assumption that the overall purpose of kindergarten is preparation for formal education (Sollars, 2018). Additionally, this would require support and professional development for the educators to learn new practices and to reassure them that relational pedagogy is possible and would create an optimal environment for new knowledge to be built in a more meaningful way (Murray, 2018a; Reeves & Le Mare, 2017).

8.5 Educational change: Insights on the national context

Change was an integral part of my research study, which through the intervention explored how modifications to pedagogy, interactions, acquisition of new knowledge and curriculum practices could assist young children to advance in their thinking skills. It revealed how change occurred across the three dimensions of educational change; educational resources, pedagogical approaches and beliefs (Fullan, 2007). Indirectly, the application of the TOC in my study cast light on the complexities of educational change on a national level as I sought to engage the educators in a reculturing process (Miller, 2005) in a context heavily influenced by broader local tensions and international influences. In this section, I am returning to the theory of change to reflect on the specific context of a Malta as a small nation

that is influenced by its own histories and traditions, by supra-national discourses and by new ideas and approaches from other systems.

Hargreaves (2005) maintains that a deeper understanding of educational change requires the acknowledgement that it occurs within a complex context that forms part of a complex and chaotic world. In this case, this research was conducted within the context of two small schools in Malta, which albeit a small country, its history is intertwined with cultural heritage that testifies how the island's strategic geographical position led to a legacy of more than five millennia of colonisation (Baldacchino, 2002; Friggieri, 2008). Having formed part of the British Empire for more than one hundred and fifty years, British influence is still highly prevalent in major dimensions such as language (Gatt, 2017), jurisdiction (Bulmer, 2014), architecture (Mallia-Milanes, 1988) and health (Fenech Adami & Kiger, 2005). As observed earlier in the thesis, the education system is no exception as it still mirrors the British system in most aspects (Bezzina, 2015; Cutajar, 2007). In short, as claimed by Baldacchino (2002), "Britain remains magnetic to the Maltese" (p. 199).

In fact, the bearing of postcolonialism on the Maltese ECEC system is still prevalent today (Baldacchino, 2019). As discussed in the Policy Review, even though intertextuality between the Maltese frameworks and England's ECEC documents is limited, practice in these schools reflected the principles endorsed in the English EYFS framework (DfE, 2017) more than the principles in the Maltese ECEC documents (DQSE, 2015; MEDE, 2012). For instance, on the same lines of the EYFS framework (DfE, 2017), the educators considered literacy and numeracy as more important than other areas of learning whereas the Maltese frameworks place them on the same level as the other learning dimensions. Another example regards the recognition of the child as competent. The findings revealed that the acknowledgement of the children's ability to take an active role in the learning process was

very limited. Once again, this tends to be more in accordance with the EYFS framework (DfE, 2017) than with the local frameworks. Such situation may indicate that the ingrained prestigiousness attributed to the inherited English system may be impinging upon practice to the extent that it tarnishes the infusion of the supra-national discourse on the right of the child to be considered as a competent social actor (United Nations, 1989).

However, regarding other aspects, it is salient to observe that the local education system is not impervious to globalisation and international discourse (Mayo, 2007). Even though Malta is not an OECD country, educational authorities still refer to the reports of the organisation (MEDE, 2013b; MEDE 2014; DQSE, 2015) and encourage schools to participate in its international studies (MEDE, 2013a). Referring to ECEC in particular, this may be interpreted as an indication that deep down, even though official policy documents indicate otherwise, policymakers are still highly influenced by these discourses and strive to ascertain that practice is guided by the principles embraced in these documents.

This research has also highlighted the influence the Australian and the New Zealand ECEC systems have on the local scenario. This is evidenced by the intertextuality that exists between the Maltese documents (DQSE, 2015; MEDE, 2012) and the Australian framework (AGDoE, 2009) and New Zealand's Te Whāriki (MoE, 2017). This may be due to the consultation between local policymakers and academic experts who are very familiar with the local scenario and live in these countries, as can be deduced from the acknowledgements in the Maltese documents. However, the process of change in this research showed that innovative pedagogical approaches which are borrowed and may be successful in other countries may not be effective in the Maltese ECEC system if the local context is not taken into consideration.

Consequently, this issue sheds light on the qualifications and experience of the educators. As reiterated in Chapter 5, practice was regulated by the imposed checklists to the extent that even Miss Victoria, who possessed the current local highest qualification for ECEC teacher, was gradually losing hope that she would be able to implement the practices that she learnt during her university course. As argued by Mahmood (2013), similar distressing circumstances lead to professional attrition and very often drive young educators away from their beloved profession. This may be an indication that similarly to policies, the training for ECEC qualifications may be promoting innovative and effective theoretical constructs without giving enough consideration to their application in practice within the local complex context. In order to address this issue in this research, information, discussion and reflection on these innovative approaches were prioritised by organising workshops and engaging in discussions throughout all the process of change. The application of the constructs within the context and the support given throughout all the intervention were crucial in setting the first steps towards the introduction of a pedagogy of thinking. Thus, the nature and quality of the intervention were the elements that facilitated the process and not the qualifications and years of experience.

The above arguments justify the claim that educational change in ECEC within the Maltese context is complex as deep-seated cultural assumptions are hard to eradicate. However, as illustrated in this study, educational change is neither impossible nor improbable. It offers a great challenge to all those who have our ECEC system at heart in order to question our traditions, shake our cultural assumptions and change our practices (Sollars, 2018).

8.4 Implications for Policy

These implications are aimed for Maltese policymakers and have the intention of bridging the gap between policies and practice. They are drawn on the findings of this research, which was a small-scale interpretative case study. Thus, they are tentative and have to be informed by further research.

- The assessments and guidelines for KG schools on the MEDE website should reflect the principles advocated in the policies, which all favour the cultivation of thinking. Both the NCF (MEDE, 2012) and the LOF (DQSE, 2015) recognise the value of inquiry-based pedagogy. The NCF (MEDE, 2012) recognises IBL as the strategy that needs to be used in order to bring about the much-desired “pedagogical reform” (p. 25) that would see a decline in the use of the traditional ‘talk and chalk’ approaches. With regards to the LOF (DQSE, 2015), IBL is also suggested as the pedagogical approach that would ensure a shift from “teaching without learning” (p. 30) to more meaningful and contextualised learning experiences. However, the assessment checklists given to KG educators are based on a different pedagogical perspective that perceives learning as composed of various subject-related content. Thus, policymakers should suggest more authentic assessment procedures such as the introduction of portfolios. This mode of assessment would encourage KG educators to adopt IBL strategies that as shown by the findings of this research, would enable the children to foster thinking skills. Episodes showing the children using their thinking skills could be recorded in such portfolios to share with the parents.
- As indicated by the educators, there is still no professional development course that focuses on the cultivation of thinking in ECEC. At the moment, there are only modules that focus on psychological development which primarily form part of

undergraduate degrees or courses for KG educators. Policymakers have to ensure that KG educators, especially the ones who have been in service for many years, receive training to enable the children to activate their thinking through pedagogical approaches appropriate for three and four-year-old children. These courses will help to gradually change the mindset of ECEC educators who may still undervalue the thinking potential of KG children by referring to cognitive maturational theories. Policymakers can ask school leaders to identify KG educators who can share good practices with their colleagues in order to encourage them to embrace new pedagogical practices for the benefit of children's thinking.

- Change cannot be effected successfully if school leaders do not lead the way for their educators (Garvey & Lancaster, 2010). Thus, policymakers have to ensure that besides training educators on the importance of cultivating thinking in young children, they have to organise information sessions for school leaders to raise awareness and remind them that thinking has to be at the heart of every educational programme. In such a way, school leaders can support their educators, identify needs for training and ascertain that the aims stipulated in policies are actually met in the settings.
- Given the wide-held Maltese perception that ECEC simply serves as a preparation for formal schooling, MEDE can use its outreach mechanisms to educate the society in general about the benefits of this educational cycle. Information sessions can be held, emphasising the importance of cultivating thinking in the early years and providing evidence to demonstrate the positive impact that it makes on the learning experience of the children.

8.5 Implications for Practice

In view of the research approach adopted in this study and the context in which it was conducted, it is important to clarify that these implications for practice are open for consideration and necessitate the support of further research. These implications are suggested for the participating schools.

- The first implication for practice concerns the school's administrative team. It can work closely with the educators in order to be in a better position to identify the practices used in the settings for the fostering of thinking. Regular meetings can be held between the team and the educators so as to encourage the process of change to proceed and address the complex issues.
- Ongoing professional development sessions are needed for these educators to continue to reflect on their practice. Participating in a community of reflective practitioners and the sharing of experiences can enable educators to become aware of how their practices may be limiting the thinking potential of the children. They can become conscious that their control over dialogues could limit the children in giving creative responses. Moreover, educators can become mindful of their biases and assumptions, such as their perceptions about parental involvement and innovate pedagogical strategies. Ongoing professional development can ascertain that interventions, as the one experienced in this study will not end up bringing a cosmetic change but an authentic long-lasting influence on the learning process of the children.
- There has to be effective communication between the school and the home for the benefit of the children. Inviting the parents to schools can help the educators to get to know the interests of the children and ensure that the activities of the setting address

those interests. The educators can eventually liaise with the parents to enable the children to continue pursuing the interest at home. In addition, even if the Maltese society may not be ready to introduce initiatives such as home visits as proposed by González et al. (2005) in the funds of knowledge approach, there are ample ways that the school can implement to share the children's knowledge with the parents.

- The final implication is that, given the findings, the educators can consider adopting the project approach to IBL as their pedagogical framework. First of all, it is in line with the outcomes in the policies, which highly promote thinking. Secondly, it promotes learning that emerges from the children's own inquiries, which is also crucial for the cultivation of thinking. Thirdly, it takes into consideration the children's funds of knowledge (Moll et al., 1992) and thus develops learning on the children's own contextual circumstances. Finally, it promotes learning through exploration which is at the heart of experiential learning; another salient element for the cultivation of thinking.

8.6 Limitations of the Study

Even though this study yielded significant findings on how thinking can be cultivated in KG-aged children, it had its own limitations. First of all, it was a case study, which is a research design that limits replication and generalization (Wellington, 2015). However, as discussed in the Methodology chapter, it is crucial to remember that the case study design is selected when the aim of the study is to achieve a deep understanding of the phenomenon and not replication or generalization. Still, the guidelines in Guba (1981) regarding credibility, transferability, dependability and confirmability were followed. In addition, when I became aware that all the educators in the settings wanted to take part in my research, I modified my plans and conducted a multiple case study. Even though such decision necessitated far more

work, time and resources on my part, it enabled me to accomplish a deeper understanding of the phenomenon as the intervention was conducted in four settings and not one (Creswell, 2007; Miles et al., 2014).

Being insider research conducted by someone in a position of power constituted another potential limitation of this study. As discussed in the Methodology chapter, I recognised that my understandings were inevitably influenced by my own principles and previous experiences (Creswell, 2014). Thus, before focussing directly on the intervention, I decided to include the first research question since I recognised that it would help me to achieve an informed understanding of the existing situation instead of designing the intervention on my own assumptions. In addition, as debated in the section on trustworthiness in the Methodology chapter, I took various measures suggested in the literature to reduce bias in insider research, to acknowledge my positionality and hence, enhance the trustworthiness of the research. Still, it is ethical to acknowledge that although all these measures were taken, there could still be the possibility that the educators complied with these changes due to my position at the school.

The above situation gave rise to another limitation linked to the context of the research field. This study was conducted in two kindergarten Church schools in Malta. Thus, the findings cannot be generalised for all kindergarten settings in all the three sectors in the Maltese islands. However, given that all kindergarten settings across all sectors have to follow the same policies and guidelines issued by MEDE and provided that all kindergarten settings in Church schools have to fill in the same assessment reports as well, the findings in this study may be indicative of what is happening in other kindergarten schools as well. Thus, the findings and key points offer original insights into the pedagogical strategies which support the cultivation of thinking in children who attend these settings. Moreover, they may

enable ECEC educators who work within similar cultures and contexts to evaluate and improve their own provision in relation to the cultivation of thinking.

The fourth limitation of this multiple case study concerns its duration. The maximum number of days spent in each setting to observe the intervention was eleven days due to my responsible duties in the schools. The time spent in the settings yielded a vast amount of data and interesting findings, yet I still acknowledge that if the intervention could have been longer I could have observed how the educators may have continued to implement the changes in their settings after the intervention and perhaps engaged with them in subsequent workshops to address the concerns raised in the analysis chapters.

8.7 Recommendations for Future Research

In view of the limitations of this study, I recommend a study with a larger sample size that would involve settings from the three educational sectors in Malta. Including other settings was beyond the scope of this research but conducting a similar study along these parameters will surely give a clearer picture of how thinking skills are fostered in the local context and therefore the findings will yield deeper insights than the ones conveyed in this study.

I also recommend a longitudinal study with the same group of children spread over the four years of the early years cycle, that is from the age of 3 to the age of 8. It would analyse how this group of children would be enabled to use their thinking in kindergarten and the first two years of primary school. Thus, the progression in thinking of individual children can be followed more closely and deep descriptions will cast new light on how to provide a more enabling environment in ECEC in order to unlock the thinking potential of young learners.

My final recommendation is that of conducting a study which would include the parents as well. Their input can provide richer insights on the children's funds of knowledge (Moll et al., 1992) and the study can include episodes of how the children used their thinking skills in situations at home. The experiences at school and home will give a more holistic picture of thinking in young children and it will bring all stakeholders to work together for the benefit of the children.

8.8 My Final Reflective Insights

These past four years were indeed a journey for me characterised more by "rocky roads" than "clear sailing" due to family and work responsibilities (Bayley, Ellis, Abreu-Ellis, O'Reilly, 2012, p. 88). However, the reflexive process that I went through during this journey enabled me to grow both personally and professionally as I became more aware of my own biases and strengthened my ethical principles as a result of my new knowledge and understandings. Being passionate about thinking and the early years I decided to embark on this journey because I strongly consider thinking as crucial for learning and as a potential that would make a difference in all aspects of a person's life as from early childhood. At present, being the Headteacher of two kindergarten schools and a primary school, I feel that school leaders have the responsibility of ensuring that all stakeholders work in synergy to educate children on how to become smart thinkers by analysing and reflecting on content knowledge in order to discern its purpose, recognise its value and draw on it to resolve issues pertinent to their context and culture. It is my wish that the contribution of this study will be taken into consideration by local ECEC experts to improve the local provision in general and address the lacunae that exist between policy and practice with regards to the cultivation of thinking.

References

- Acta Apostolicae Sedis (1993). *Agreement between the Holy See and the Republic of Malta on church schools*. Retrieved August 31, 2019, from http://www.vatican.va/roman_curia/secretariat_state/archivio/documents/rc_seg-st_19930218_santa-sede-rep-malta-scuole_en.html
- Adler, P. A. & Adler, P. (1987). *Membership roles in field research*. Newbury Park, CA: Sage.
- Adler, P. A. & Adler, P. (1994). Observational techniques. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research*. (pp. 377-392). Thousand Oaks: CA, Sage.
- Akhal, A. (2019). *The early years workforce: A comparison with retail workforce*. Retrieved August 31, 2019, from <https://epi.org.uk/publications-and-research/early-years-workforce-comparison-retail-workers/>
- Alexander, R. J. (2017). *Towards Dialogic Teaching: rethinking classroom talk*. (5th ed.). York: Dialogos
- Altfest, K. C. (1977). *Robert Owen as educator*. Boston: Twayne.
- Angrosino, M. V. (2005). Recontextualizing observation: Ethnography, pedagogy and the prospects for a progressive political agenda. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research* (3rd ed.). (pp. 729-746). Thousand Oaks, CA: Sage.
- Areljung, S., & Kelly-Ware, J. (2017). Navigating the risky terrain of children's working theories. *Early Years*, 37(4), 370-385. doi: 10.1080/09575146.2016.1191441
- Arnold, C. (2003). *Observing Harry: Child Development and Learning 0–5 Years*. Maidenhead: Open University Press.
- Atherton, F., & Nutbrown, C. (2013). *Understanding schemas with young children: From birth to three*. London: SAGE.
- Atherton, F., & Nutbrown, C. (2016). Schematic pedagogy: Supporting one child's learning at home and in a group. *International Journal of Early Years Education*, 24(1), 63-79. doi:10.1080/09669760.2015.1119671
- Athey, C. (1990). *Extending Thought in Young Children: A Parent Teacher Partnership*. London: Paul Chapman.
- Athey, C. (2007). *Extending Thought in Young Children: A Parent Teacher Partnership*. (2nd ed.). Retrieved from <https://www.dawsonera.com/readonline/9780857026668>
- Atkins, L. & Wallace, S. (2012). *Qualitative research in education*. Retrieved August 31, 2019, from <http://methods.sagepub.com/sheffield.idm.oclc.org/Book/atkins-qualitative-research-in-education>
- Attard, M. (2002). Guidelines and suggestions for the implementation of the curriculum in Kindergarten. Malta: Education Division.

- Auld, E., & Morris, P. (2019). The OECD and IELTS: Redefining early childhood education for the 21st century. *Policy Futures in Education, 17*(1), 11-26. doi: 10.1177/1478210318823949
- Australian Government Department of Education, Employment and Workplace (2009) *Belonging, Being and Becoming: The Early Years Learning Framework for Australia*. Australia: Commonwealth of Australia.
- Ayer, A. J. *The foundations of empirical knowledge*. Retrieved from <https://archive.org/details/foundationsofemp00ayer>
- Bacchi, C. (2000). Policy as Discourse: What does it mean? Where does it get us? *Discourse: Studies in the Cultural Politics of Education, 21*(1), 45-57. doi: 10.1080/01596300050005493
- Baldacchino, Anna. (2018). *Early Childhood Education in Small Island States: A Very British Story*. (Doctoral thesis, University of Sheffield, United Kingdom). Retrieved from <http://etheses.whiterose.ac.uk/23004/>
- Baldacchino, G. (2002). A Nationless State? Malta, National Identity and the EU. *West European Politics, 25*(4), 191-206.
- Ball, S. (1987). *The micropolitics of the school. Towards a Theory of school organization*. Oxon: Routledge.
- Ball, S. J. (1993). What is policy? Texts, trajectories and toolboxes. *Discourse, Studies in the Cultural Politics of Education, 13*(2), 10–17. doi:10.1080/0159630930130203
- Bandura, A. (2000). Exercise of Human Agency Through Collective Efficacy. *Current Directions in Psychological Science, 9*(3), 75-78. doi: 10.1111/1467-8721.00064
- Bassey, M. (1999). *Case study research in educational settings*. Buckingham: Open University Press.
- Bateman, A. (2013). Responding to children's answers: Questions embedded in the social context of early childhood education. *Early Years, 33*(3), 275-288. doi: 10.1080/09575146.2013.800844
- Bates, A. (2019). Readiness for School, Time and Ethics in Educational Practice. *Studies in Philosophy and Education, 38*(4), 411-426. doi: 10.1007/s11217-018-9643-2
- Bayley, J., Ellis, J., Abreu-Ellis, C., & O'Reilly, E. (2012). Rocky Road or Clear Sailing? Recent Graduates' Recollections and Reflections of the Doctoral Journey. *Brock Education, 21*(2), pp. 88-102.
- Bell, L. & Stevenson, H. (2006). *Education policy: Process, themes and impact*. Oxon: Routledge.
- Benson, H. H. (2006). *A companion to Plato*. Retrieved from https://archive.org/details/58871954ACompanionToPlato_201801
- Bezzina, C. (2015). Malta. In: W. Hörner, H. Döbert, L. Reuter & B. von Kopp (Eds.), *The Education Systems of Europe* (2nd ed.). Global Education Systems Series. (pp. 523-543). Retrieved from https://link.springer.com/referenceworkentry/10.1007/978-3-319-07473-3_31
- Biermeier, M. (2015). Inspired by Reggio Emilia: Emergent Curriculum in Relationship-Driven Learning Environments. *YC Young Children, 70*(5), 72-74,76-79. Retrieved from

https://search-proquest-com.sheffield.idm.oclc.org/docview/1789779366?rfr_id=info:xri/sid:primo

- Biesta, G. (2014). Pragmatising the curriculum: Bringing knowledge back into the curriculum conversation, but via pragmatism. *Curriculum Journal*, 25(1), 29-49. doi: 10.1080/09585176.2013.874954
- Biesta, G. J. J. & Burbules, N. (2004). *Pragmatism and educational research*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Birch, D. & Hooper, K. (2012). *The concise Oxford companion to English literature*. (4th ed.). Retrieved from <https://www.oxfordreference.com/view/10.1093/acref/9780199608218.001.0001/acref-9780199608218>
- Blacker, F. (1995). Knowledge, knowledge work and organization: an overview and interpretation. *Organization Studies*, 16(6), 1021-46.
- Blase, J. (2005). The Micropolitics of Educational Change. In: A. Hargreaves (Ed.), *Extending educational change: International handbook of educational change* (Vol. 2). (pp. 264-277). Retrieved from <https://www.springer.com/gp/book/9781402032912>
- Boncoddio, R., Dixon, J., & Kelley, E. (2010). The emergence of a novel representation from action: Evidence from preschoolers. *Developmental Science*, 13(2), 370-377. doi: 10.1111/j.1467-7687.2009.00905.x
- Botkin, J. W., Elmandjra, M. & Malitza, M. (1979). *No limits to learning: Bridging the human gap. A report to the Club of Rome*. Oxford: Pergamon.
- Bourdieu, P. (1990). *The logic of practice*. Cambridge: Polity Press.
- Bowe, R., Ball, S. J. & Gold, A. (2017). *Reforming Education and Changing Schools: Case Studies in Policy Sociology*. Retrieved from <https://ebookcentral.proquest.com/lib/sheffield/detail.action?docID=4851371>
- Bradbury, A. (2019). Datafied at four: The role of data in the 'schoolification' of early childhood education in England. *Learning, Media and Technology: The Datafication of Education*, 44(1), 7-21.
- Bredeson, P. (2000). The school principal's role in teacher professional development. *Journal of In-Service Education*, 26(2), 385-401. doi: 10.1080/13674580000200114
- Brezicha, K., Bergmark, U., & Mitra, D. (2015). One Size Does Not Fit All: Differentiating Leadership to Support Teachers in School Reform. *Educational Administration Quarterly*, 51(1), 96-132. doi: 10.1177/0013161X14521632
- Brierley, J. (1994). *Give me a child until he is seven: Brain studies and early childhood education*. London: The Falmer Press.
- Brierley, J D. (2013). *The Stories of Four Young Children's Schematic Explorations within Their Lived Experience*. (Doctoral thesis, University of Sheffield, United Kingdom). Retrieved from <http://etheses.whiterose.ac.uk/4970/>

- British Educational Research Association (2019). March of the Four Year Olds. Retrieved August 31, 2019, from <https://www.bera.ac.uk/news/march-of-the-four-year-olds>
- Brooks, E., & Murray, J. (2018). Ready, steady, learn: School readiness and children's voices in English early childhood settings. *Education 3-13*, 46(2), 143-156. doi: 10.1080/03004279.2016.1204335
- Brownlee, J. (2004). Teacher education students' epistemological beliefs: Developing a relational model of teaching. *Research in Education*, (72), 1-17.
- Bruer, J. T. (1993). *Schools for thought: A science of learning in the classroom*. Cambridge, MA: MIT Press.
- Bruner, J. S. (1966). *Toward a theory of instruction*. Cambridge, MA: Harvard University Press.
- Bruner, J. S. (1996). *The culture of education*. Cambridge MA: Harvard University Press.
- Bruner, J. S. (1977). *The process of education*. (2nd ed.) Cambridge, MA: Harvard University Press.
- Brunschwig, J. (2000). Epistemology. In: J. Brunschwig & G. Lloyd (Eds.), *Greek thought: A guide to classical knowledge*. (pp. 72-93). London: The Belknap Press.
- Brunschwig, J. & Lloyd, G. (2000). *Greek thought: A guide to classical knowledge*. London: The Belknap Press.
- Brydon, K., & Fleming, J. (2011). The journey around my PhD: Pitfalls, insights and diamonds. *Social Work Education*, 30(8), 995-1011. doi:10.1080/02615479.2010.527936
- Bullough, R. V. (2011). Hope, Happiness, Teaching, and Learning. In: C. Day & J. C. Lee (Eds.), *New Understandings of Teacher's Work: Emotions and Educational Change* (pp. 15-30). Retrieved from <https://trove.nla.gov.au/work/151770229>
- Bulmer, W. (2014). Constrained majoritarianism: Westminster constitutionalism in Malta. *Commonwealth & Comparative Politics*, 52(2), 232-253.
- Burke, L. & Williams, J. (2012). Two thinking skills assessment approaches: "Assessment of Pupils' Thinking Skills" and "Individual Thinking Skills Assessments". *Thinking Skills and Creativity*, 7(1), 62-68. doi: 10.1016/j.tsc.2011.11.002
- Burke, R., Guck, T., Robinson, M., Powell, W., & Fichtner, L. (2006). Overcoming Resistance to Implementing Classroom Management Strategies: Use of the Transtheoretical Model to Explain Teacher Behavior. *Research in the Schools*, 13(2), 1-12.
- Busher, H. & James, H. (2007). Ethics of research in education. In: A. Briggs and M. Coleman (Eds.), *Research methods in educational leadership and management* (pp. 106-122). London: Sage.
- Byrne, D. (2017). What are ontology and epistemology?. *Project Planner*. Retrieved from <http://methods.sagepub.com/sheffield.idm.oclc.org/project-planner/philosophy-of-research>
- Calliari, P. (2010). *Amiamo l'amore: Profilo biografico di Madre Margerita De Brincat fondatrice*. Retrieved from http://www.francecj.com/francecj/wp-content/uploads/2016/10/AMIAMO-LAMORE-profilo-biografico-di-MM_P-CALLIARI.pdf

- Carpendale, J. I. M. & Lewis, C. (2015). The development of children's understanding of social interaction In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding* (pp. 123-132). Oxon: Routledge.
- Carr, W. & Kemmis, S. (1986). *Becoming critical: education, knowledge and action research*. London: Deakin University Press.
- Carter, C., & Nutbrown, C. (2016). A Pedagogy of Friendship: Young children's friendships and how schools can support them. *International Journal of Early Years Education*, 24(4), 395-413. doi: 10.1080/09669760.2016.1189813
- Cassidy, D., Buell, M., Pugh-Hoese, S., & Russell, S. (1995). The effect of education on child care teachers' beliefs and classroom quality: Year one evaluation of the TEACH early childhood associate degree scholarship program. *Early Childhood Research Quarterly*, 10(2), 171-183.
- Chaiklin, S. (2003). The Zone of Proximal Development in Vygotsky's Analysis of Learning and Instruction. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 39-64). Cambridge: Cambridge University Press.
- Chappell, K., Craft, A., Burnard, P., & Cremin, T. (2008). Question-posing and question-responding: The heart of 'Possibility Thinking' in the early years. *Early Years*, 28(3), 267-286. doi: 10.1080/09575140802224477
- Chard, S. (2014). The Project Approach. Retrieved from <http://www.projectapproach.org>
- Chard, S., Kogan, Y. & Castillo, C. A. (2017). *Picturing the Project Approach : Creative Explorations in Early Learning*. Beltsville, MD: Gryphon House.
- Charmaz, K. (2005). Grounded Theory in the 21st century: Applications for advancing social justice studies. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research* (3rd ed.) (pp. 507-537). Thousand Oaks CA: Sage.
- Chase, S. (2005). Narrative inquiry, multiple lenses, approaches, voices. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research* (3rd ed.) (pp. 651-680). Thousand Oaks CA: Sage.
- Chatzipanteli, A., Grammatikopoulos, V., & Gregoriadis, A. (2014). Development and evaluation of metacognition in early childhood education. *Early Child Development and Care*, 184(8), 1223-1232. doi: 10.1080/03004430.2013.861456
- Cheeseman, S. (2017). Narratives of infants' encounters with curriculum: Beyond the curriculum of care. *Contemporary Issues in Early Childhood*, 18(1), 55-66. doi: 10.1177/1463949117692243
- Chesworth, L. (2016). A funds of knowledge approach to examine play interests: Listening to children's and parents' perspectives. *International Journal of Early Years Education*, 24(3), 294-308. doi: 10.1080/09669760.2016.1188370

- Chesworth, L. (2019). Theorising young children's interests: Making connections and in-the-moment happenings. *Learning, Culture and Social Interaction*, <https://doi.org/10.1016/j.lcsi.2018.11.010>
- Chmiliar, L. (2010). Multiple-Case Designs. In: A. Mills, G. Durepos & E. Wiebe (Eds.). *Encyclopedia of Case Study Research*. Volume 2. (pp. 582-584). Retrieved from <https://archive.org/details/2.encyclopediaOfCaseStudyResearch/page/n605>
- Clark, C. & Anderson, A. (2004, November). Theories of change and logic models: Telling them apart [PowerPoint Presentation]. Retrieved from <https://www.theoryofchange.org/library/presentations/>
- Claxton, G. (1990) *Teaching to Learn: A Direction for Education*. Retrieved from <https://archive.org/details/teachingtolearnd0000clax>
- Claxton, G. (2015). The development of learning power: a new perspective on child development and early education. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international hand international handbook of young children's thinking and understanding*. (pp. 367-376). Oxon: Routledge.
- Clough, P., & Nutbrown, C. (2012). *A student's guide to methodology : Justifying enquiry* (3rd ed.). London: SAGE.
- Coady, M. M. (2001). Ethics in early childhood research. In: G. Mac Naughton, S. A. Rolfe, & I. Siraj-Blatchford (Eds.). *Doing early childhood research: International perspectives on theory and practice*. (pp. 64-74). Berkshire: Open University.
- Coffey, P. (1917). *Epistemology or the theory of knowledge: An introduction to general metaphysics*. Retrieved from <https://archive.org/details/epistemologycoff01coffuoft>
- Cohen, D. and Crabtree, B. (2008). *Qualitative research guidelines project. July 2006*. Retrieved August 31, 2019, from <http://www.qualres.org/index.html>
- Cohen, L., Manion, L. & Morrison, K. (2011). *Research methods in education* (7th ed.). Oxon: Routledge.
- Cole, M., & Engeström, Y. (2007). Cultural-historical approaches to designing for development. In: J. Valsiner & A. Rosa (Eds.), *The Cambridge handbook of sociocultural psychology* (pp. 484-507). New York, NY, US: Cambridge University Press.
- Cole, M. & Wertsch, J. (1996). Beyond the Individual-Social Antinomy in Discussions of Piaget and Vygotsky. *Human Development*, 39(5), 250-256. Retrieved from <https://search-proquest-com.sheffield.idm.oclc.org/docview/62502707?accountid=13828>
- Collins, H. (2010). *Tacit and Explicit Knowledge*. London: The University of Chicago Press Ltd.
- Cooper, M. (2017). Reframing assessment: Reconceptualising relationships and acknowledging emotional labour. *Contemporary Issues in Early Childhood*, 18(4), 375-386. doi: o0r.g1/107.171/1774/613469349419171774422784
- Cooper, M., & Hedges, H. (2014). Beyond Participation: What We Learned from Hunter about Collaboration with Pasifika Children and Families. *Contemporary Issues in Early Childhood*, 15(2), 165-175. doi: 10.2304/ciec.2014.15.2.165

- Costa, A., & Kallick, B. (2008). *Learning and leading with habits of mind: 16 essential characteristics for success*. Alexandria, VA: ASCD.
- Costello, P. J. M. (2000). *Thinking skills and early childhood education*. London: David Fulton Publishers.
- Council for the Curriculum Examination and Assessment [CCEA]. (2019). Curriculum. Foundation Stage. Retrieved August 31, 2019, from http://ccea.org.uk/curriculum/foundation_stage
- Cousin, G. (2010). Positioning positionality: the reflexive turn. In: M. Savin-Baden & C. Howell Major (Eds.). *New approaches to qualitative research: wisdom and uncertainty*. (pp. 9-18). New York: Routledge.
- Craft, A. (2015). Possibility thinking: From what is to what might be. In: R. Wegerif, L. Li & J. C. Kaufman (Eds.), *The Routledge International Handbook of Research on Teaching Thinking*. (pp. 153-167). Oxon: Routledge.
- Cremin, T., Flewitt, R., Swann, J., Faulkner, D., & Kucirkova, N. (2018). Storytelling and story-acting: Co-construction in action. *Journal of Early Childhood Research*, 16(1), 3-17. doi: 10.1177/1476718X17750205
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. London: Sage.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA, Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). California: Sage Publications Inc.
- Crownover, A., & Jones, J. (2018). A Relational Pedagogy: A Call for Teacher Educators to Rethink How Teacher Candidates Are Trained to Combat Bullying. *Journal of Thought*, 52(1/2), 17-70.
- Cuban, L. (1988). *The managerial imperative and the practice of leadership in schools*. Albany: State University of New York Press.
- Cutajar, M. (2007). Educational Reform in the Maltese Islands. *Journal of Maltese Education Research*, 5(1), 3-21.
- D' Agnese, V. (2017). The Essential Uncertainty of Thinking: Education and Subject in John Dewey. *Journal of Philosophy of Education*, 51(1), 73-88. doi: 10.1111/1467-9752.12187
- Dahlberg, G., Moss, P. & Pence, A. (1999). *Beyond Quality in Early Childhood Education and Care: Postmodern Perspectives*. Falmer Press, London.
- Dahlberg, G., Moss, P. & Pence, A. R. (2007). *Beyond Quality in Early Childhood Education and Care: Languages of Evaluation*. London: Routledge.
- Daniel, M. F., Gagnon, M. C., & Pettier, J. (2012). Philosophy for children and the developmental process of dialogical critical thinking in groups of preschool children. *Advances in Early Education and Day Care*, 16, 159-181. doi: 10.1108/S0270-4021(2012)0000016010

- Davis, K., Peters, S. & White, E. (2012). Growing islands of interest: nurturing the development of young children's working theories. In: *Creative Engagements: Thinking with Children*. 8th Global Conference, 29 June-1 July 2012 (pp. 1-11). Retrieved from <https://researchcommons.waikato.ac.nz/bitstream/handle/10289/7319/peters%20growing%20islands.pdf?sequence=1&isAllowed=y>
- Davydov, V. V. (1988). Problems of developmental teaching. *Soviet Education*, 8, 15–97. Retrieved from <https://www.tandfonline.com/toc/mres19/30/8?nav=toCList>
- Davydov, V. V. (1988). Problems of developmental teaching. *Soviet Education*, 9, 3–83. Retrieved from <https://www.tandfonline.com/toc/mres19/30/9?nav=toCList>
- Davydov, V. V. (1988). Problems of developmental teaching. *Soviet Education*, 10, 3–77. Retrieved from <https://www.tandfonline.com/toc/mres19/30/10?nav=toCList>
- Davydov, V. V. (1990). *Types of generalization in instruction: Logical and Psychological Problems in the Structuring of School Curricula* (J. Teller, trans.). Retrieved from <https://www.marxists.org/archive/davydov/generalization/generalization.pdf>
- Davydov, V. V. (1999). What is real learning activity? In: M. Hedegaard & J. Lompscher (Eds.), *Learning activity and development*. (pp. 123–138). Aarhus, Denmark: Aarhus University Press.
- Day, C. (2011). Uncertain Professional Identities: Managing the Emotional Contexts of Teaching. In: C. Day & J. C. Lee (Eds.), *New Understandings of Teacher's Work: Emotions and Educational Change* (pp. 45-64). Retrieved from <https://trove.nla.gov.au/work/151770229>
- De Bono, E. (1976) *Teaching thinking*. London: Temple Smith.
- Degotardi, S., Page, J. and White, E. J. (2017). (Re)conceptualising relationships in infant-toddler pedagogy. *Contemporary Issues in Early Childhood*, 18(4), 355-361. doi: 10.1177/1463949117742760
- della Porta, D (2008). Comparative analysis: case-oriented versus variable-oriented research. In: D. della Porta & M. Keating (Eds.). *Approaches and methodologies in the social sciences: A pluralist perspective*. (pp. 198-222). Cambridge: Cambridge University Press.
- Denscombe, M. (2014). *The good research guide: For small-scale social research projects* (5th ed.). New York: Open University Press.
- Denzin, N. (1989). *The Research Act* (3rd ed.). New Jersey: Prentice Hall.
- Denzin, N. K. & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research*. (3rd ed.). (pp. 1-32). Thousand Oaks CA: Sage.
- Department for Curriculum, Lifelong Learning and Employability [DLAP] (2018). (DLAP 054/2018) *Letter circular: Teaching, Learning and Assessment following the New Sectorial Agreement 2017*. Retrieved August, 31, 2019, from https://curriculum.gov.mt/en/Resources/DLAP_Circulars/Documents/DLAP%20Circulars%202018/DLAP%20054%20-

[%20Teaching,%20Learning%20and%20Assessment%20following%20the%20New%20Sectorial%20Agreement%202017.pdf](#)

Department for Curriculum, Lifelong Learning and Employability [DLAP] (2018). (DLAP 281/2018) *Letter circular: COPE for KGEs in Kinder 1*. Retrieved August, 31, 2019, from https://curriculum.gov.mt/en/Resources/DLAP_Circulars/Documents/DLAP%20Circulars%202018/DLAP%20281%20-%20COPE%20for%20KGEs%20in%20Kinder%201.pdf

Department for Education (2012). *Statutory framework for the Early Years Foundation Stage. Setting the standards for learning, development and care for children from birth to five*. Retrieved August, 31, 2019, from <https://foundationyears.org.uk/eyfs-statutory-framework/>

Department for Education (2017). *Statutory framework for the early years foundation stage: Setting the standards for learning, development and care for children from birth to five*. Retrieved August, 31, 2019, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/596629/EYFS_STATUTORY_FRAMEWORK_2017.pdf

Department for Education and Employment (DfEE) (2000). *Curriculum Guidance for the Foundation Stage*. Retrieved August, 31, 2019, from <http://webarhive.nationalarchives.gov.uk/20040117041426/http://www.dfes.gov.uk/foundationstage/download.shtml>

Department of Education and Skills. (2010). *Siolta: The national quality framework for early childhood education*. Retrieved from <http://siolta.ie/media/pdfs/siolta-manual-2017.pdf>

Dewey, J. (1897) My pedagogic creed. *School Journal*, 54, 77-80. Retrieved from <http://dewey.pragmatism.org/creed.htm>

Dewey, J. (1899) *The school and society*. Retrieved from <https://archive.org/details/schoolsociety00dewerich/page/n9>

Dewey, J. (1902). *The child and the curriculum*. Retrieved from <https://ia800504.us.archive.org/1/items/thechildandthecu29259gut/29259-8.txt>

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. Retrieved from <https://archive.org/details/democracyandedu05dewegoog/page/n7>

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Retrieved from <https://archive.org/details/howwethinkrestat00dewerich>

Dewey, J. (1938). *Experience and education*. Retrieved from <https://archive.org/details/experienceeducat00john>

Director General. (2009). *Director General Circular dated 26th May 2009 Ref DES/DQSE/01/2009: Memorandum of Understanding between the Government of Malta and the Malta Union of teachers*.

Directorate for Quality and Standards in Education [DQSE]. (2015). *Learning Outcomes Framework [LOF]*. Malta: Ministry for Education, Culture, Youth and Sport.

Dostál, J. (2015). Theory of Problem Solving. *Procedia - Social and Behavioral Sciences*, 174, 2798-2805. doi: 10.1016/j.sbspro.2015.01.970

- Dovigo, F. (2016). Argumentation in preschool: A common ground for collaborative learning in early childhood. *European Early Childhood Education Research Journal*, 24(6), 818-840. doi: 10.1080/1350293X.2016.1239327
- Dowdell, K., Gray, T., & Malone, K. (2011). Nature and its Influence on Children's Outdoor Play. *Journal of Outdoor and Environmental Education*, 15(2), 24-35. doi: 10.1007/BF03400925
- Drew, C. J., Hardman, M. L. & Hosp, J. L. (2008). *Designing and Conducting Research in Education*. Retrieved from <http://methods.sagepub.com.sheffield.idm.oclc.org/book/designing-and-conducting-research-in-education>
- Edwards, C. (1998). Partner, Nurturer, and Guide: The Role of the Teacher. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia approach - advanced reflections* (2nd ed.). (pp. 179-198). Greenwich: Ablex Publishing Corporation.
- Edwards, S. (2005). Constructivism does not only happen in the individual: Sociocultural theory and early childhood education. *Early Child Development and Care*, 175(1), 37-47. doi: 10.1080/0300443042000230311
- Edwards, S. (2009). *Early Childhood Education and Care: A Sociocultural Approach*. New South Wales: Pademelon Press.
- Edwards, C., Gandini, L. & Forman, G. (Eds.). (1998). *The hundred languages of children: The Reggio Emilia approach - advanced reflections* (2nd ed.). Greenwich: Ablex Publishing Corporation.
- Edwards, C., Gandini, L. & Forman, G. (Eds.). (2012). *The hundred languages of children: The Reggio Emilia approach: The Reggio Emilia experience in transformation* (3rd ed.). California: ABC-CLIO-, LLC.
- Elkonin, D. B. (1988). How to teach children to read. In: G. E. Stelmach and P. A. Vroom (Series Ed.), *Advances in Psychology: Volume 49. Cognitive psychology and reading in the USSR* (J. A. Downing, Ed., pp. 387-426). Retrieved from <https://www.elsevier.com/books/cognitive-psychology-and-reading-in-the-ussr/downing/978-0-444-70374-3>
- Ellegård, T. (2004). Self-governance and incompetence: Teachers' instruction of 'the competent child'. In: H. Brembeck & J. Kampmann (Eds.), *Beyond the Competent Child: Exploring Contemporary Childhoods in the Nordic Welfare Societies* (pp. 177-197). Retrieved from <https://shop.lix.com/en/books/9788778679475>
- Elwick, A., Osgood, J., Robertson, L., Sakr, M., & Wilson, D. (2018). In Pursuit of Quality: Early Childhood Qualifications and Training Policy. *Journal of Education Policy*, 33(4), 510-525.
- Engeström, Y. (2015). *Learning by expanding: An activity-theoretical approach to developmental research*. New York: Cambridge University Press.
- Ephgrave, A. (2018). *Planning in the moment with young children: A practical guide for early years practitioners and parents*. London: Routledge.

- Eurydice (2019). National reforms in early childhood education and care Retrieved August, 31, 2019, from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-early-childhood-education-and-care-43_en
- Fairclough, N. (2003). *Analysing Discourse and Text: Textual Analysis for Social Research*. London: Routledge.
- Fejes, A. (2013). Foucault, confession and reflective practice. In: Murphy, M. (Ed.). *Social Theory and Education Research*. (pp. 52-66). Oxon: Routledge.
- Fenech Adami, M., & Kiger, A. (2005). A study of continuing nurse education in Malta: The importance of national context. *Nurse Education Today*, 25(1), 78-84.
- Fink, D. & Stoll, L. (2005). Educational Change: Easier Said than Done. In: A. Hargreaves (Ed.), *Extending educational change: International handbook of educational change* (Vol. 2). (pp. 17-41). Retrieved from <https://www.springer.com/gp/book/9781402032912>
- Finnish National Agency for Education (2019) *National core curriculum for early childhood education and care 2018*. Retrieved August, 31, 2019, from <https://verkkokauppa.oph.fi/EN/page/product/national-core-curriculum-for-early-childhood-education-and-care-2018/2555301>
- Fisher, J., & Wood, E. (2012). Changing educational practice in the early years through practitioner-led action research: An Adult-Child Interaction Project. *International Journal of Early Years Education*, 20(2), 114-129.
- Fisher, R. (Ed.) (1987). *Problem solving in Primary Schools*. Oxford: Blackwell.
- Fisher, R. (1990). *Teaching Children to Think*, Cheltenham: Stanley Thornes.
- Fisher, R. (1998). Thinking About Thinking: Developing Metacognition in Children. *Early Child Development and Care*, 141(1), 1-15. doi: 10.1080/0300443981410101
- Fisher, R. (1999). Thinking Skills to Thinking Schools: Ways to Develop Children's Thinking and Learning. *Early Child Development and Care*, 153(1), 51-63. doi: 10.1080/0300443991530104
- Fisher, R. (2007). Teaching thinking in the classroom. *Education Canada*, 47(2), 72-74. Retrieved from <https://www.edcan.ca/wp-content/uploads/EdCan-2007-v47-n2-Fisher.pdf>
- Fontana, A. & Frey, J. (2005). The interview: From neutral stance to political involvement. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research* (3rd ed.). (pp. 695-728). Thousand Oaks CA: Sage.
- Freire, P. (1970). *Pedagogy of the oppressed* (M. B. Ramos, trans.). Retrieved from <https://archive.org/details/pedagogyofoppres00frei/page/n3>
- Freud, S. (1901). *The psychopathology of everyday life* (A. A. Brill, trans.). Retrieved from http://www.reasoned.org/dir/lit/PEL_freud.pdf
- Friggieri, O. (2008). The Role of Malta in a Unified Europe: A Cultural Interpretation of a Political Reality. *Revista De Stiinte Politice*, (17), 45-54.

- Froebel, F. (1901). *The education of man* (W. N. Hailmann, trans.). Retrieved from <https://archive.org/details/educationofman00fr>
- Frost, D. (2007). Practitioner research and leadership: the key to school improvement. In: A. Briggs and M. Coleman (Eds.). *Research methods in educational leadership and management*. (pp. 82-85). London: Sage.
- Frost, J., & Sutterby, J. (2017). Outdoor Play Is Essential to Whole Child Development. *YC Young Children*, 72(3), 82-85.
- Fullan, M. (2007). *The new meaning of educational change* (4th ed.) New York: Teachers College Press.
- Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London: The Falmer Press.
- Fullan, M. (2014). *The principal: Three keys to maximizing impact*. Retrieved from <https://ebookcentral.proquest.com/lib/sheffield/reader.action?docID=1603261>
- Fullan, M. & Hargreaves, A. (1991). *What's worth fighting for in your school?* Retrieved from <https://eric.ed.gov/?id=ED342128>
- Gandini, L. (1998). Educational and Caring Spaces. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia-advanced reflections* (2nd ed.). (pp. 161-178). Greenwich: Ablex Publishing Corporation.
- Garvey, D. & Lancaster, A. (2010). *Leadership for Quality in Early Years and Playwork: Supporting your team to achieve better outcomes for children and families*. London: NCB.
- Gatt, D. (2017). Bilingual vocabulary production in young children receiving Maltese-dominant exposure: Individual differences and the influence of demographic and language exposure factors. *International Journal of Bilingual Education and Bilingualism: Risk and Protective Environmental Factors for Early Bilingual Language Acquisition*, 20(2), 163-182.
- Georgeff, M., & Lansky, A. (1986). Procedural knowledge. *Proceedings of the IEEE*, 74(10), 1383-1398.
- Gergen, K. J. (1999). *An invitation to social construction*. Thousand Oaks, CA: Sage.
- Gettier, E. (1963). Is justified true belief knowledge? *Analysis*, 23(6), 121-123.
- Giest, H. & Lompscher, J. (2003). Formation of Learning Activity and Theoretical Thinking in Science Teaching. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 267-288). Cambridge: Cambridge University Press.
- Gjems, L. (2010). Teachers talking to young children: Invitations to negotiate meaning in everyday conversations. *European Early Childhood Education Research Journal*, 18(2), 139-148. doi: 10.1080/13502931003784479

- Gjems, L. (2011). Why explanations matter: A study of co-construction of explanations between teachers and children in everyday conversations in kindergarten. *European Early Childhood Education Research Journal*, 19(4), 501-513. doi: 10.1080/1350293X.2011.623537
- Glassman, M. (2001). Dewey and Vygotsky: Society, Experience, and Inquiry in Educational Practice. *Educational Researcher*, 30(4), 3-14. doi: 10.3102/0013189X030004003
- Goouch, K. (2009). Forging and fostering relationships in play: whose zone is it anyway? In: T. Papatheodorou & J. Moyles (Eds.), *Learning Together in the Early Years Exploring relational pedagogy*. (pp. 139-151). Oxon: Routledge.
- Göncü, A. (1993). Development of Intersubjectivity in the Dyadic Play of Preschoolers. *Early Childhood Research Quarterly*, 8(1), 99-116.
- González, N., Moll, L., & Amanti, C. (2005). *Funds of knowledge: Theorizing practices in households, communities and classrooms*. London: Lawrence Erlbaum.
- Government of Malta (2015). *Kindergarten*. Retrieved June, 2, 2019, from <http://curriculum.gov.mt>
- Government of Malta (2016). *Welcome to the early years website!* Accessed on September, 20, 2019.
- Green, S., & Gredler, M. (2002). A Review and Analysis of Constructivism for School-Based Practice. *School Psychology Review*, 31(1), 53-70.
- Greenbank, P. (2003). The role of values in educational research: The case for reflexivity. *British Educational Research Journal*, 29(6), 791-801. doi: 10.1080/0141192032000137303
- Groundwater-Smith, S. (2011). Using social theory in educational research: A practical guide. *Educational Action Research*, 19(1), 107-109. doi: 10.1080/09650792.2010.547736
- Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational and Communication and Technology Journal* 29, 75-91. doi:10.1007/BF02766777
- Guba, E. and Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Guba, E. & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In: N. K. Denzin & Y. S. Lincoln (Eds.). *Handbook of qualitative research* (pp.105-117). Thousand Oaks CA: Sage.
- Guba, E. & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research* (3rd ed.). (pp. 191-215). Thousand Oaks CA: Sage
- Gunnarsdottir, B. (2014). From play to school: Are core values of ECEC in Iceland being undermined by 'schoolification'? *International Journal of Early Years Education: Early Years Professionalism: Reflections in Diverse Local Contexts*, 22(3), 242-250.
- Isaacs, S. (1933). *Social development in young children: A study of beginnings*. Retrieved from <https://archive.org/details/in.ernet.dli.2015.285950>
- Haenen, J., Schrijnemakers, H. & Stufkens, J. (2003). Sociocultural Theory and the Practice of Teaching Historical Concepts. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.),

Vygotsky's Educational Theory in Cultural Context (pp. 246-266). Cambridge: Cambridge University Press.

Halpern, D. (2014). *Thought and knowledge: An introduction to Critical Thinking* (5th ed.). New York: Psychology Press.

Hanscomb, S. (2017). *Critical thinking: The Basics*. Oxon: Routledge.

Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14(Fall 88), 575-599

Hargraves, V. (2014). Complex Possibilities: 'Working Theories' as an Outcome for the Early Childhood Curriculum. *Contemporary Issues in Early Childhood*, 15(4), 319-328. doi: 10.2304/ciec.2014.15.4.319

Hargreaves, A. (Ed.). (2005). *Extending educational change: International handbook of educational change* (Vol. 2). Retrieved from <https://www.springer.com/gp/book/9781402032912>

Hargreaves, A., Leiberan, A., Fullan, M. & Hopkins, D. (2010). *Second international handbook of educational change* (Vol 23.) [Kindle edition]. Retrieved from <http://www.amazon.co.uk>

Harris, A. (2003). The changing context of leadership: Research, theory and practice. In: A. Harris, C. Day, D. Hopkins, M. Hadfield, A. Hargreaves and C. Chapman, *Effective leadership for school improvement* (p. 9-25). School Leadership Series. Retrieved from <https://ebookcentral.proquest.com/lib/sheffield/reader.action?docID=1144497>

Harris Helm, J. & Katz, L. (2016). *Young investigators: The project approach in the early years* (3rd ed.). New York: Teachers College Press.

Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany: State University of New York Press.

Hayek, F. (1945). The Use of Knowledge in Society. *The American Economic Review*, 35(4), 519-530.

He, K. (2017). *A theory of creative thinking: Construction and verification of the dual circulation model*. Retrieved from <https://www.springer.com/gp/book/9789811050527>

Hedges, H. (2010). Whose play, goals and interests? The interface of children's play and teachers' pedagogical practices. In: L. Brooker & S. Edwards (Eds.), *Engaging Play*. (pp. 25-38). Retrieved from <https://www.dawsonera.com/readonline/9780335239221>

Hedges, H. (2011). Connecting 'snippets of knowledge': Teachers' understandings of the concept of working theories. *Early Years*, 31(3), 271-284. doi: 10.1080/09575146.2011.606206

Hedges, H. (2012). Vygotsky's phases of everyday concept development and the notion of children's "working theories". *Learning, Culture and Social Interaction*, 1(2), 143-152. doi: 10.1016/j.lcsi.2012.06.001

- Hedges, H. (2014). Young children's 'working theories': Building and connecting understandings. *Journal of Early Childhood Research*, 12(1), 35-49. doi: 10.1177/1476718X13515417
- Hedges, H., & Cooper, M. (2014). Inquiring minds, meaningful responses: Children's interests, inquiries, and working theories. *Teaching and Learning Research Initiative*. Retrieved August, 31, 2019, from [http://www.tlri.org.nz/sites/default/files/projects/TLRI_Hedges%20Summary\(final%20for%20website\)1.pdf](http://www.tlri.org.nz/sites/default/files/projects/TLRI_Hedges%20Summary(final%20for%20website)1.pdf)
- Hedges, H., & Cooper, M. (2016). Inquiring minds: Theorizing children's interests. *Journal of Curriculum Studies*, 48(3), 303-322. doi: 10.1080/00220272.2015.1109711
- Hedges, H., & Cooper, M. (2018). Relational play-based pedagogy: theorising a core practice in early childhood education, *Teachers and Teaching*, 24(4), 369-383, doi: 10.1080/13540602.2018.1430564
- Helm, J. H. & Katz, L. (2011). *Young investigators: The project approach in the early years* (2nd ed.). Early Childhood Education Series. New York: Teachers College Press.
- Henshall, A., Atkins, L., Bolan, R., Harrison, J., & Munn, H. (2018). 'Certified to make a difference': The motivation and perceptions of newly qualified early years teachers in England. *Journal of Vocational Education & Training*, 70(3), 417-434.
- Her Majesty's Stationery Office. (1967). *The Plowden Report. Children and their primary schools*. Retrieved from <http://www.educationengland.org.uk/documents/plowden/plowden1967-1.html>
- Herriott, R., & Firestone, W. (1983). Multisite Qualitative Policy Research: Optimizing Description and Generalizability. *Educational Researcher*, 12(2), 14-19. doi: 10.3102/0013189X012002014
- Hetmański Marek. (2018). Expert Knowledge: Its Structure, Functions and Limits. *Studia Humana (Rzeszów)*, 7(3), 11-20.
- Hill, M. (2015). *Dead forever: Young children building theories in a play-based classroom*. (Doctoral thesis, University of Sheffield, United Kingdom). Retrieved from <http://etheses.whiterose.ac.uk/9379/>
- Hill, M. & Wood, E. (2019). 'Dead Forever': An ethnographic study of young children's interests, funds of knowledge and working theories in free play. *Learning, Culture and Social Interaction*. Advance online publication. doi: 10.1016/j.lcsi.2019.02.017
- His Majesty's Stationery Office. (1931). *The Hadow Report. Report of The Consultative Committee on the primary school*. Retrieved from <http://www.educationengland.org.uk/documents/hadow1931/hadow1931.html>
- Holder, J. (1994). An epistemological foundation for thinking: A Deweyan approach. *Studies in Philosophy and Education*, 13(3-4), 175-192.
- Holt, J. (1968). *How children learn*. London: Pitman.
- Holt, J. (1991). *Learning all the time*. Ticknall: Education Now Publishing Cooperative.

- Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory model. *Educational Review*, 63(1), 37-52. doi: 10.1080/00131911.2010.488049
- Houghton, C., Casey, D., Shaw D and Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), 12-17.
- Huberman, M. (1988). Teacher careers and school improvement. *Journal of Curriculum Studies*, 20(2), 119-132.
- Hyatt, D. (2013). The critical policy discourse analysis frame: Helping doctoral students engage with the educational policy analysis. *Teaching in Higher Education*, 18(8), 833-845. doi: 10.1080/13562517.2013.795935
- Hyun, E., & Marshall, J. (2003). Critical inquiry into emergent-oriented curriculum practice. *Journal of Early Childhood Teacher Education*, 24(1), 37-50. doi: 10.1080/1090102030240107
- International Bank for Reconstruction and Development/ The World Bank. (2019). The changing nature of work. Retrieved August, 31, 2019, from <https://www.worldbank.org/en/publication/wdr2019>
- Jones, E. (2012). The Emergence of Emergent Curriculum. *YC Young Children*, 67(2), 66-68.
- Jordan, B. (2009). Scaffolding learning and co-constructing understandings. In: A. Anning, J. Cullen & M. Fleer (Eds.), *Early childhood education society and culture*. (2nd ed., pp. 39-52). London: Sage.
- Kalliala, M. (2014). Toddlers as both more and less competent social actors in Finnish day care centres. *Early Years*, 34(1), 4-17. doi:10.1080/09575146.2013.854320
- Kant, E. (1781). *Critique of pure reason* (F. Max Müller, trans.) Retrieved from http://files.libertyfund.org/files/1442/0330_Bk.pdf
- Karpov, Y. V. (2003). Vygotsky's Doctrine of Scientific Concepts: Its Role for Contemporary Education. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 65-82). Cambridge: Cambridge University Press.
- Katz, L. G., & Chard, S. C. (1989). *Engaging children's minds: The project approach*. Norwood, NJ: Ablex.
- Katz, L. G., & Chard, S. C. (2000). *Engaging children's minds: The project approach* (2nd ed.). Connecticut: Ablex Publishing Corporation.
- Katz, L.G., Chard, S. C. & Y. Kogan. (2014). *Engaging Children's Minds: The Project Approach* (3rd ed.). Santa Barbara, CA: Praeger.
- Kelley, L. (2018). Solution Stories: A Narrative Study of How Teachers Support Children's Problem Solving. *Early Childhood Education Journal*, 46(3), 313-322. doi: 10.1007/s10643-017-0866-6
- Kelly, J., and E. White. (2013). *The Ngahere Project: Teaching and Learning Possibilities in Nature Settings*. Retrieved from https://www.waikato.ac.nz/data/assets/pdf_file/0007/146176/Ngahere-project_3-2013-03-14.pdf

- Kereluik, K., Mishra, P., Fahnoe, C., & Terry, L. (2013). What Knowledge Is of Most Worth: Teacher Knowledge for 21st Century Learning. *Journal of Digital Learning in Teacher Education*, 29(4), 127-140.
- Kilpatrick, W. H. (1918). *The Project Method: The Use of the Purposeful Act in the Educative Process*. Retrieved from <https://archive.org/details/projectmethodus00kilpgoog>
- Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd ed.). New Jersey: Pearson Education, Inc.
- Kozulin, A. (1990). *Vygotsky's psychology: A biography of ideas*. Cambridge, MA: Harvard University Press.
- Kozulin, A. (2003). Psychological Tools and Mediated Learning. In: In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 15-38). Cambridge: Cambridge University Press.
- Kozulin, A., Gindis, B., Ageyev V. S. & Miller, S. M. (Eds.). (2003). Introduction: Sociocultural Theory and Education: Students, Teachers, and Knowledge. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context*. (pp. 1-11). Cambridge: Cambridge University Press.
- Lam, C. Y. (2018). Policy evaluation. In: B. B. Frey (Ed.). *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. Retrieved from <http://methods.sagepub.com/sheffield.idm.oclc.org/base/download/ReferenceEntry/the-sage-encyclopedia-of-educational-research-measurement-and-evaluation/i16011.xml>
- Lansdown, Jimerson, & Shahroozi. (2014). Children's rights and school psychology: Children's right to participation. *Journal of School Psychology*, 52(1), 3-12. doi: 10.1016/j.jsp.2013.12.006
- Lantolf, J. (2000). *Sociocultural theory and second language learning*. Oxford: Oxford University Press.
- Larkin, S. (2015). Metacognitive experiences: Taking account of feelings in early years education. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 189-198). Oxon: Routledge.
- Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership & Management*, 28(1), 27-42. doi:10.1080/13632430701800060
- Leithwood, K., Harris, A., & Hopkins, D. (2019). Seven strong claims about successful school leadership revisited. *School Leadership and Management*, 1-18. doi:10.1080/13632434.2019.1596077
- Leithwood, K., & Riehl, C. (2003). *What we know about successful school leadership*. Philadelphia PA: Laboratory for student Success, Temple University.
- Lenz-Taguchi, H. (2009). *Going beyond the theory/practice divide in early childhood education: Introducing an intra-active pedagogy* (Contesting Early Childhood). Retrieved from <https://ebookcentral.proquest.com/lib/sheffield/detail.action?docID=446938>

- Lenz Taguchi, H. L. (2010a). Doing collaborative deconstruction as an 'exorbitant' strategy in qualitative research. *Reconceptualizing Educational Research Methodology*, 1(1), 41-53. doi: 10.7577/term.170
- Leont'ev, A. N. (1981). The problem of activity in psychology. In: J. V. Wertsch (Ed.). *The concept of activity in Soviet psychology*. (pp. 37-71) Armonk, NY: Sharpe.
- Leseman P., Rollenberg, L. & Rispen, J. (2001). Playing and working in kindergarten: Cognitive co-construction in two educational situations. *Early Childhood Research Quarterly*, 16(3), 363-384. doi: 10.1016/S0885-2006(01)00103-X
- Lightfoot, S., & Frost, D. (2015). The professional identity of early years educators in England: Implications for a transformative approach to continuing professional development. *Professional Development in Education: The Professional Development of Early Years Educators*, 41(2), 401-418.
- Liljestrand, J., & Hammarberg, A. (2017). The social construction of the competent, self-governed child in documentation: Panels in the Swedish preschool. *Contemporary Issues in Early Childhood*, 18(1), 39-54. doi: 10.1177/1463949117692270
- Lin, Y., & Magnuson, K. (2018). Classroom quality and children's academic skills in child care centers: Understanding the role of teacher qualifications. *Early Childhood Research Quarterly*, 42, 215-227.
- Lincoln, Y. S. (2011). Emerging Criteria for Quality in Qualitative and Interpretive Research. In: P. Atkinson & S. Delamont (Eds.). *SAGE qualitative research methods*. (pp. 276- 289). Thousand Oaks, CA: Sage Publications Ltd.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lincoln, Y. S. & Guba, E. (2013). *The Constructivist Credo*. CA: Left Coast Press, Inc.
- Lipman, M. (1988). Critical Thinking--What Can it Be? *Educational Leadership*, 46(1), 38. Retrieved from https://search-proquest-com.sheffield.idm.oclc.org/docview/224859179?rfr_id=info:xri/sid:primo
- Lipman, M. (2003). *Thinking in education* (2nd ed.). Retrieved from <https://archive.org/details/thinkingineducat0000lipm>
- Lipman, M., Sharp, A. M. & Oscanyan, F. S. (1980). *Philosophy in the classroom*. Philadelphia: Temple University Press.
- Littleton, K., & Mercer, N. (2013). *Interthinking: Putting talk to work*. London: Routledge.
- Loeffler, J., Raab, M., & Cañal-Bruland, R. (2016). A Lifespan Perspective on Embodied Cognition. *Frontiers in Psychology*, 7, 845. doi: 10.3389/fpsy0.2018.00550
- Lovatt, D., Cooper, M., & Hedges, H. (2017). Enhancing interactions: Understanding family pedagogy and funds of knowledge "on their turf". In A. C. Gunn, & C. A. Hruska (Eds.). *Interactions in early childhood education: Recent research and emergent concepts*. (pp. 99-112). Singapore: Springer.

- Lovatt, D., & Hedges, H. (2015). Children's working theories: Invoking disequilibrium. *Early Child Development and Care*, 185(6), 909-925. doi: 10.1080/03004430.2014.967688
- Lubecki, L. M. (2014). *The Transtheoretical Model and Stages of Change: Predicting the Accuracy of the Stages of Change Scale for Early Education and Care 2.0 Self-Report Form* (Doctoral thesis, St. John Fisher College, United States of America). Retrieved from <https://www.semanticscholar.org/paper/The-Transtheoretical-Model-and-Stages-of-Change%3A-of-Lubecki/86496ee034b35f0fbf33b6a19df2ee31fa9628e6>
- Luff, P. (2009). Looking, listening, learning and linking: uses of observation for relational pedagogy. In: T. Papatheodorou & J. Moyles (Eds.), *Learning Together in the Early Years Exploring relational pedagogy*. (pp. 66-75). Oxon: Routledge.
- Luff, P. (2018). Early Childhood Education for Sustainability: Origins and Inspirations in the Work of John Dewey. *Education 3-13*, 46(4), 447-455.
- Mac Naughton, G., and Hughes, P. (2008). *Doing Action Research In Early Childhood Studies: A Step-By-Step Guide: a step-by-step guide*. Berkshire: Open University Press.
- Madrid, S. & Kantor, R. (2007a). Social constructionism. In: R. S. New & M. Cochran (Eds.). *Early childhood education: An international encyclopedia, Volumes 1-4* (Vol. 1). Westport, CT: Praeger Publishers.
- Madrid, S. & Kantor, R. (2007b). Social constructivism. In: R. S. New & M. Cochran (Eds.). *Early childhood education: An international encyclopedia, Volumes 1-4* (Vol. 1). Westport, CT: Praeger Publishers.
- Mahmood, S. (2013). "Reality Shock": New Early Childhood Education Teachers. *Journal of Early Childhood Teacher Education*, 34(2), 154-170.
- Malaguzzi, L. (1993). For an education based on relationships. *Young Children*, 49(1), 9-13. Retrieved from <https://www-jstor-org.sheffield.idm.oclc.org/stable/pdf/42725534.pdf?refreqid=excelsior%3A9702f025e519b2bd13065a1751197e61>
- Malaguzzi, L. (1998). History, ideas, and basic philosophy: An interview with Leila Gandini. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia-advanced reflections* (2nd ed.). (pp. 49-97). Greenwich: Ablex Publishing Corporation.
- Mallia-Milanes, V. (1988) *The British Colonial Experience, 1800-1964: The Impact on Maltese Society*. Malta: Mireva Publications
- Marope, P. T. M. & Kaga, Y. (Eds.). (2015). *Investing against evidence: The global state of early childhood care and education*. Retrieved August, 31, 2019, from <https://unesdoc.unesco.org/ark:/48223/pf0000233558>
- Marshall, C., and Rossman, G. (2016). *Designing qualitative research* (6th ed.). Thousand Oaks, CA: Sage.
- Mason, J. (2002). *Qualitative researching*. London, Sage.

- Masters, J., & Grogan, L. (2018). A comparative analysis of nature kindergarten programmes in Australia and New Zealand. *International Journal of Early Years Education*, 26(3), 233-248. doi: 10.1080/09669760.2018.1459507
- Mauritzson, U. & Shiyan, I. (2018). Theory of other minds, children's dialectical thinking and abilities to reflect and communicate on new opportunities. In: N. Veraksa & S. Sheridan (Eds.), *Vygotsky's theory in early childhood education and research*. (pp. 68-80). Oxon: Routledge.
- Mayo, P. (2014). Gramsci and the politics of education. *Capital & Class*, 38(2), 385-398. doi: 10.1177/0309816814533170
- Mayo, P. (2015). Adult education policy and the European Union: Theoretical and methodological perspectives. *International Review of Education*, 61(3), 423-425.
- McCulloch, G. (2004). *Documentary research in education, history and the social sciences*. London, Routledge Falmer.
- McGuinness, C. (1999). *From thinking skills to thinking classrooms: A review and evaluation of approaches for developing pupils' thinking*. London: Department for Education and Employment.
- Meggitt, C. (2008). *CACHE Level 2 Award/Certificate/Diploma in Child Care and Education*. London: Hodder Education.
- Mercer, J. (2007). The challenges of insider research in educational institutions: Wielding a double-edged sword and resolving delicate dilemmas. *Oxford Review of Education*, 33(1), 1-17. doi: 10.1080/03054980601094651
- Merriam, S.B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Merriam, S. B (2009). *Qualitative Research: A guide to design and implementation*. San Francisco, CA: John Wiley and Sons Inc.
- Miles, B. & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Retrieved from <https://archive.org/details/qualitivedataa00mile>
- Miles, B., Huberman, A. and Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Los Angeles: Sage.
- Miller, L. (2005). Redefining Teachers, Reculturing Schools: Connections, Commitments and Challenges. In: A. Hargreaves (Ed.), *Extending educational change: International handbook of educational change* (Vol. 2). (pp. 249-263). Retrieved from <https://www.springer.com/gp/book/9781402032912>
- Ministry for Education and Employment [MEDE] (n.d.). *Design of Learning Outcomes Framework, Associated Learning and Assessment Programmes*. Retrieved from <http://www.schoolslearningoutcomes.edu.mt/en/>
- Ministry for Education and Employment [MEDE] (1999). *National minimum curriculum*. Gzira, Malta: Salesian Press.

- Ministry for Education and Employment [MEDE] (2006). *Early childhood education and care: A national policy*. Floriana: Ministry for Education and Employment.
- Ministry for Education and Employment [MEDE] (2012). *A national curriculum framework for all [NCF]*. Gzira, Malta: Salesian Press.
- Ministry for Education and Employment [MEDE] (2013a). *PIRLS 2011 Progress in International Reading Literacy Study: Malta Report*. Retrieved October, 1, 2019, from <https://researchandinnovation.gov.mt/en/documents/pirls%202011-%20malta%20report.pdf>
- Ministry for Education and Employment [MEDE] (2013b). *Early childhood education and care in Malta: The way forward*. Retrieved August, 31, 2019, from <https://education.gov.mt/en/Documents/Public%20Consultations/White%20Paper.pdf>
- Ministry for Education and Employment [MEDE] (2014). *A strategic plan for the prevention of early school leaving in Malta 2014*. Retrieved October, 1, 2019, from <https://education.gov.mt/en/resources/Documents/Policy%20Documents%202014/School%20Leaving%20in%20Malta%20June%202014.pdf>
- Ministry of Education, New Zealand (1996). *Te Whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa, Early childhood curriculum*. Retrieved August, 31, 2019, from <https://www.education.govt.nz/assets/Documents/Early-Childhood/Te-Whariki-1996.pdf>
- Ministry of Education, New Zealand (2017). *Te whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*. Retrieved August, 31, 2019, from <https://education.govt.nz/assets/Documents/Early-Childhood/ELS-Te-Whariki-Early-Childhood-Curriculum-ENG-Web.pdf>
- Mishna, F., Antle, B., & Regehr, C. (2004). Tapping the Perspectives of Children: Emerging Ethical Issues in Qualitative Research. *Qualitative Social Work*, 3(4), 449-468. doi: 10.1177/1473325004048025
- Moll, L., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, 31(2), 132-141. doi: 10.1080/00405849209543534
- Morgan, D.L. (2002). Focus group interviewing. In: J.F. Gubrium & J.A. Holstein (Eds.). *Handbook of interviewing research: Context & method*. (pp. 141–159). Thousand Oaks, CA: Sage.
- Morrison, C. (2014). From ‘Sage on the Stage’ to ‘Guide on the Side’: A Good Start. *International Journal for the Scholarship of Teaching and Learning*, 8(1), Art. 4, doi: 10.20429/ijstl.2014.080104
- Moser, P. (1987). Propositional knowledge. *Philosophical Studies*, 52(1), 91-114.
- Moyles, J. (2006). *Effective Leadership and Management in the Early Years*. Berkshire: Open University Press.
- Murray, J. (2017a). *Building knowledge in early childhood education: Young children are researchers*. Retrieved from <https://bookshelf.vitalsource.com/>
- Murray, J. (2017b). Young children are human beings. *International Journal of Early Years Education*, 25(4), 339-342. doi: 10.1080/09669760.2017.1388554

- Murray, J. (2018a). In praise of early childhood educators. *International Journal of Early Years Education*, 26(1), 1-3. doi: 10.1080/09669760.2018.1423669
- Murray, J. (2018b). Value/s in early childhood education. *International Journal of Early Years Education*, 26(3), 215-219. doi: 10.1080/09669760.2018.1490849
- MUT. (2007). *Agreement between the Government and the Malta Union of Teachers*.
- National Council for Curriculum and Assessment. (2009). *Aistear: The early childhood curriculum framework*. Retrieved from <https://www.ncca.ie/media/4029/aistear-they-early-childhood-curriculum-framework.pdf>
- National Statistics Office (2019) *Regional Statistics Malta 2019 Edition*. Valletta: National Statistics Office.
- New, R. S. (1998). Theory and Praxis in Reggio Emilia: They Know What They Are Doing, and Why. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia-advanced reflections* (2nd ed.). (pp. 261-284). Greenwich: Ablex Publishing Corporation.
- Nickerson, R., Perkins, D., Smith, E. (1985). *The Teaching of Thinking*. New York: Routledge.
- Niles, A. (2015). Assessment practices within New Zealand early childhood settings. *He Kupu*, 4(2), 5-15. Retrieved from <https://www.hekupu.ac.nz/article/assessment-practices-within-new-zealand-early-childhood-settings>
- Nimmo, J. (1998). The Child in Community: Constraints From the Early Childhood Lore. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia-advanced reflections* (2nd ed.). (pp. 295-312). Greenwich: Ablex Publishing Corporation.
- Nisbet, J. (1993). The thinking curriculum. *Educational psychology*, 13(3-4), 281-290. doi: 10.1080/0144341930130306
- Nottingham, J. (2013). *Encouraging Learning: How you can help children learn*. Oxon: Routledge.
- Nutbrown, C. (2011a). Naked by the pool? Blurring the image? Ethical issues in the portrayal of young children in arts-based educational research. *Qualitative Inquiry*, 17(1), 3-14. doi: 10.1177/1077800410389437
- Nutbrown, C. (2011b). *Key concepts in early childhood education and care*. (2nd ed., Sage key concepts). London: SAGE.
- Nutbrown, C. (2011c). *Threads of thinking : Schemas and young children's learning* (4th ed.). London: SAGE.
- Nutbrown, C., & Clough, P. (2014). *Early childhood education: History, philosophy and experience* (2nd ed.). London: SAGE Publications.
- Office for Standards in Education [OfSTED]. (2015). *School Inspection Handbook*. Ministry of Education: UK.

- Office for Standards in Education [OfSTED]. (2017). *Bold Beginnings*. Retrieved August, 31, 2019, from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/663560/28933_Ofsted - Early Years Curriculum Report - Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/663560/28933_Ofsted_-_Early_Years_Curriculum_Report_-_Accessible.pdf)
- OED Online. (2019). Retrieved August, 31, 2019, from <https://www-oed-com.sheffield.idm.oclc.org/view/Entry/200799?rskey=iThGPT&result=3&isAdvanced=false#eid>
- Organisation for Economic Co-operation and Development [OECD] (2012). *Starting Strong III: A quality toolbox for early childhood education and care*. Retrieved May, 19, 2019, from <https://www.dawsonera.com/abstract/9789264123564>
- Organisation for Economic Co-operation and Development [OECD] (2018a). *Engaging young children: Lessons from research about quality in early childhood education and care, Starting Strong*. Retrieved August, 31, 2019, from <https://www.oecd.org/education/engaging-young-children-9789264085145-en.htm>
- Organisation for Economic Co-operation and Development [OECD]. (2018b). *Early learning matters: Findings from the International Early Learning and Child Well-being 2017 Field Trial*. Retrieved August, 31, 2019, from <http://www.oecd.org/education/school/publicationsdocuments/brochure/IELS-Field-Trial-Report.pdf>
- Organisation for Economic Co-operation and Development [OECD]. (2019). *International Early Learning and Child Well-being Study*. Retrieved August, 31, 2019, from <http://www.oecd.org/education/school/international-early-learning-and-child-well-being-study.htm>
- Ortlipp, M. (2008). Keeping and Using Reflective Journals in the Qualitative Research Process. *Qualitative Report*, 13(4), 695-705.
- Panofsky, C. P. (2003). The Relations of Learning and Student Social Class: Toward Re-“socializing” Sociocultural Learning Theory. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 411-431). Cambridge: Cambridge University Press.
- Papatheodorou, T. (2009). Exploring relational pedagogy. In: T. Papatheodorou & J. Moyles (Eds.), *Learning together in the early years: Exploring relational pedagogy*. (pp. 3-17). Oxon: Routledge.
- Papatheodorou, T. & Moyles, J. (Eds.). (2009). *Learning together in the early years: Exploring relational pedagogy*. Oxon: Routledge.
- Parker, W. (1987). Teaching Thinking: The Pervasive Approach. *Journal of Teacher Education*, 38(3), 50-56. doi: 10.1177/002248718703800311
- Pavlov, I. P. (1927). *Conditioned reflexes*. Retrieved from <https://archive.org/details/ConditionedReflexes>
- Pedaste, M., Mäeots, M., Siiman, L., de Jong, T., Van Riesen, S., Kamp, E. T., Manoli, C. C. Zacharia, Z. C. & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review*, 14(C), 47-61. doi: 10.1016/j.edurev.2015.02.003

- Perkins, D., Jay, E., & Tishman, S. (1993). Beyond Abilities: A Dispositional Theory of Thinking. *Merrill-Palmer Quarterly*, 39(1), 1-21. Retrieved from <https://www.jstor.org/sheffield.idm.oclc.org/stable/pdf/23087298.pdf?refreqid=excelsior%3A5cffbdfa76cc84efd7ecda254f57ed3>
- Peters, S. (2009). Responsive, reciprocal relationships: the heart of the *Te Whāriki* curriculum. In: T. Papatheodorou & J. Moyles (Eds.), *Learning Together in the Early Years Exploring relational pedagogy*. (pp. 23-32). Oxon: Routledge.
- Peters, S., & Davis, K. (2011). Fostering children's working theories: Pedagogic issues and dilemmas in New Zealand. *Early Years*, 31(1), 5-17. doi: 10.1080/09575146.2010.549107
- Peters, S. & Davis, K. (2015). Babies, boys, boats and beyond: children's working theories in the early years. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 251-261). Oxon: Routledge.
- Peterson, S. M. (2012a). Meeting people where they are: Recognizing Early Educators' Readiness to Change. *NHA Dialog: A Research-to-Practice Journal for the Early Childhood Field*. 15(1), 147-152.
- Peterson, S. M. (2012b). Understanding early educators' readiness to change. *NHSA Dialog*. 15(1), 95-112.
- Peterson, S. M. & Baker, A. C. (2011). Readiness to change in communities, programs, and individuals. In: J. A. Sutterby (Series Ed.), *Advances in Early Education and Day Care* (J. A. Sutterby, Ed., pp. 35-59). Retrieved from <https://ebookcentral.proquest.com/lib/sheffield/detail.action?docID=807425>
- Phelan, S. and Kinsella, E. (2013). Picture this... safety, dignity, and voice – ethical research with children: Practical considerations for the reflexive researcher. *Qualitative inquiry*, 19(2), 81-90. doi: 10.1177/1077800412462987
- Piaget, J. (1936). *The origins of intelligence in the child*. Retrieved from <https://archive.org/details/in.ernet.dli.2015.458564/page/n2>
- Piaget, J. (1950). *The psychology of intelligence*. Retrieved from <https://www.bookyards.com/en/book/details/13618/Psychology-Of-Intelligence#>
- Piaget, J. (1954). *The construction of reality in the child*. Retrieved from <https://archive.org/details/constructionofr100piag/page/n3>
- Piaget, J. (1962). *Play, dreams, and imitation in childhood*. Retrieved from <https://archive.org/details/playdreamsimitat00piag>
- Piaget, J. (1970). *Genetic epistemology*. Retrieved from <https://archive.org/details/geneticepistemol00piag>

- Plato, (369 bc) *Theaetetus*. Retrieved from <https://archive.org/details/theaetetus01726gut>
- Pouwels, J. & Biesta, G. (2017). With Socrates on Your Heels and Descartes in Your Hand: On the Notion of Conflict in John Dewey's Democracy and Education. *Education Sciences*, 7(1), 7. doi: 10.3390/educsci7010007
- Pramling, N. & Säljö, R. (2015). The clinical interview: The child as a partner in conversations versus the child as an object of research. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 87-95). Oxon: Routledge.
- Prochaska, J., & DiClemente, C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 51(3), 390-395.
- Prochaska, J., DiClemente, C., & Norcross, J. (1992). In Search of How People Change: Applications to Addictive Behaviors. *The American Psychologist*, 47(9), 1102-1114.
- Pullen, P., & Justice, L. (2003). Enhancing Phonological Awareness, Print Awareness, and Oral Language Skills in Preschool Children. *Intervention in School and Clinic*, 39(2), 87-98. doi: 10.1177/10534512030390020401
- Purdon, A. (2016). Sustained shared thinking in an early childhood setting: An exploration of practitioners' perspectives. *Education*, 3-13, 44(3), 269-282. doi:10.1080/03004279.2014.907819
- Ragin, C. C. (2014). *The comparative method: moving beyond qualitative and quantitative strategies*. California: University of California Press.
- Rankin, B. (1998). Curriculum Development in Reggio Emilia: A Long-Term Curriculum Project About Dinosaurs. In: C. Edwards, L. Gandini & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia approach - advanced reflections* (2nd ed.). (pp. 215-237). Greenwich: Ablex Publishing Corporation.
- Reeves, J., & Le Mare, L. (2017). Supporting Teachers in Relational Pedagogy and Social Emotional Education: A Qualitative Exploration. *International Journal of Emotional Education*, 9(1), 85-98.
- Resnick, L. B. (1985). Cognition and instruction: Recent theories of human competence. In B. L. Hammonds (Ed.), *Master lecture series, Vol. 4. Psychology and learning* (pp. 123-186). American Psychological Association.
- Resnick, L.B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Resnick, L. B. & Klopfer, L. E. (Eds.). (1989). *Toward the Thinking Curriculum: current cognitive research*. Retrieved from <https://archive.org/details/towardthinkingcu00resn/page/n1>
- Ribbins, P. (2007). Interviews in educational research: conversations with a purpose. In: A. Briggs and M. Coleman (Eds.). *Research methods in educational leadership and management*. (pp. 207-223). London: Sage.

- Rinaldi, C. (2006). In dialogue with Reggio Emilia: Listening, researching and learning. London: Routledge.
- Ring, E., & O'Sullivan, L. (2018). Dewey: A panacea for the 'schoolification' epidemic. *Education 3-13*, 46(4), 402-410. doi: 10.1080/03004279.2018.1445474
- Ritchhart, R., Church, M., & Morrison, K. (2011). *Making thinking visible: How to promote engagement, understanding, and independence for all learners*. San Francisco: Jossey-Bass Publishers.
- Robb, M., Mew, V. & Richardson, A. (2015). *Learning with nature: a how-to guide to inspiring children through outdoor games and activities*. Cambridge: Green Books.
- Roberts-Holmes, G., & Bradbury, A. (2017). Primary schools and network governance: A policy analysis of reception baseline assessment. *British Educational Research Journal*, 43(4), 671-682. doi:10.1002/berj.3285
- Robson, C. and McCartan, K. (2016). *Real world research* (4th ed.). West Sussex: John Wiley and Sons Ltd.
- Robson, S. (2012). *Developing thinking and understanding in young children: An introduction for students* (2nd ed.). Oxon: Routledge.
- Robson, S., & Flannery Quinn, S. (Eds.). (2015). *The Routledge international handbook of young children's thinking and understanding*. Oxon: Routledge.
- Robson, S., & Hargreaves, D. (2005). What do early childhood practitioners think about young children's thinking? *European Early Childhood Education Research Journal*, 13(1), 81-96. 10.1080/13502930585209571
- Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. Oxford: Oxford University Press.
- Rogoff, B., Matusov, E. & White, C. (1996). Models of Teaching and Learning. In: D. R. Olson & N. Torrance (Eds.), *The Handbook of Education and Human Development*. (pp. 388-414). Oxford: Blackwell.
- Rommetveit, R. (1983). Prospective Social Psychological Contributions To a Truly Interdisciplinary Understanding of Ordinary Language. *Journal of Language and Social Psychology*, 2(2-3-4), 89-104. doi: 10.1177/0261927X8300200202
- Rosales, A. C. (2015). *Mathematizing : an emergent math curriculum approach for young children*. St. Paul, MN: Redleaf Press
- Rose, J. (2009). *Independent Review of the Primary Curriculum: Final Report*. Retrieved from https://webarchive.nationalarchives.gov.uk/20100205061400/http://publications.teachernet.gov.uk/eOrderingDownload/Primary_curriculum_Report.pdf
- Rudebusch, G. (2009). *Socrates, Pleasure and Value*. Retrieved from https://www.academia.edu/636293/Socrates_Pleasure_and_Value

- Ryan, S. & Hornbeck A. (2007). Pedagogy. In: R. S. New & M. Cochran (Eds.). *Early childhood education: An international encyclopedia, Volumes 1-4* (Vol. 1). Westport, CT: Praeger Publishers.
- Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). London: Sage.
- Säljö, R. & Veraksa, N. (2018). Vygotsky in two perspectives: Russian and Western understandings. In: N. Veraksa & S. Sheridan (Eds.), *Vygotsky's theory in early childhood education and research*. (pp. 9-21). Oxon: Routledge.
- Salmon, A. (2010). Tools to Enhance Young Children's Thinking. *YC Young Children*, 65(5), 26-31.
- Salomon, G. (1993). Editor's introduction. In: G. Salomon (Ed.), *Distributed Cognitions: Psychological and Educational Considerations*. (pp. xi-xxi). Retrieved from <https://archive.org/details/distributedcogni0000unse>
- Sandelowski, M. (2012). Member Check. In: L. M. Given (Ed.). *The SAGE encyclopedia of qualitative research methods*. (pp. 502). Thousand Oaks, CA, SAGE Publications Ltd.
- Sandseter, E., & Sando, O. (2016). "We don't allow children to climb trees": How a focus on safety affects Norwegian children's play in early-childhood education and care Settings. *American Journal of Play*, 8(2), 178-200.
- Santos, F. & Eisenhardt, K. (2004) Multiple Case Study. In: M. Lewis-Beck, A. Bryman & T. Liao (Eds.), *The SAGE encyclopedia of social science research methods*. Retrieved from <http://methods.sagepub.com/sheffield.idm.oclc.org/base/download/ReferenceEntry/the-sage-encyclopedia-of-social-science-research-methods/n596.xml>
- Schechter, C., Shaked, H., Ganon-Shilon, S., & Goldratt, M. (2018). Leadership Metaphors: School Principals' Sense-Making of a National Reform. *Leadership and Policy in Schools*, 17(1), 1-26. doi: 10.1080/15700763.2016.1232836
- Schindler, H., Fisher, P., & Shonkoff, J. (2017). From Innovation to Impact at Scale: Lessons Learned From a Cluster of Research–Community Partnerships. *Child Development*, 88(5), 1435-1446.
- Schleicher, A. (2011). The case for 21st century learning. *OECD Observer*, (282/283), 42–43. Retrieved from <http://search.ebscohost.com/sheffield.idm.oclc.org/login.aspx?direct=true&db=buh&AN=62171507&site=ehost-live>
- Schön, D. (1971). *Beyond the stable state*. Retrieved from <https://archive.org/details/beyondstablestat0000scho/mode/2up>
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books, Inc.
- Scribner-MacLean, M. (2012). More than just guessing. *Science Scope*, 35(8), 37-40. Retrieved from https://search-proquest-com/sheffield.idm.oclc.org/docview/963335114?rfr_id=info:xri/sid:primo
- Seale, C. (2010). Quality issues in qualitative inquiry. In: P. Atkinson and S. Delamont (Eds.). *SAGE qualitative research methods*. (pp. 98-109). Thousand Oaks, CA: Sage Publications Ltd.

- Sheerer, M., Dettore, E., & Cyphers, J. (1996). Off with a theme: Emergent curriculum in action. *Early Childhood Education Journal*, 24(2), 99-102.
- Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63-75.
- Shonkoff, J. P. (2015). The neurobiology of early childhood development and the foundation of a sustainable society. In: P. T. M. Marope & Y. Kaga (Eds.), *Investing against evidence: The global state of early childhood care and education*. (pp. 55-71). Retrieved August, 31, 2019, from <https://unesdoc.unesco.org/ark:/48223/pf0000233558>
- Shonkoff, J. P., & Philips, D. A. (Eds.). (2000). *From neurons to neighbourhoods: The science of early childhood development*. Washington, DC: National Academy Press.
- Siegel, H. (1998). Knowledge, truth and education. In: D. Carr (Ed.), *Education, knowledge and truth*. (pp. 19-36). London: Routledge.
- Sikes, P. (2006). On dodgy ground? Problematics and ethics in educational research. *International Journal of Research & Method in Education*, 29(1), 105-117. doi: 10.1080/01406720500537502
- Sikes, P. (1992). Imposed change and the experienced teacher. In: M. Fullan & A. Hargreaves (Eds.), *Teacher development and educational change* (pp. 36-55). Oxon: Routledge.
- Silverman, D. (2013). *Doing qualitative research* (4th ed.). London: Sage.
- Siraj, I. & Asani, R. (2015). The role of sustained shared thinking, play and metacognition in young children's learning. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 403-415). Oxon: Routledge.
- Siraj-Blatchford, I. (2009). Quality teaching in the early years. In: A. Anning, J. Cullen & M. Fleer (Eds.), *Early childhood education: Society and Culture*. (pp. 147-157). London: Sage Publications Ltd.
- Siraj-Blatchford, I., & Sylva, K. (2004). Researching pedagogy in English pre-schools. *British Educational Research Journal*, 30(5), 713-730. doi: 10.1080/0141192042000234665
- Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R., & Bell, D. (2002). *Researching effective pedagogy in the early years, DfES research report 356*. [REPEY]. Retrieved August, 31, 2019, from <https://dera.ioe.ac.uk/4650/>
- Skinner, B. F. (1974). *About behaviourism*. Retrieved from <https://archive.org/details/aboutbehaviorism00skin/page/n5>
- Smith, K. (2011). Producing governable subjects: Images of childhood old and new. *Childhood*, 19(1): 24-37. doi:10.1177/0907568211401434
- Sollars, V. (2018). Shaping early childhood education services in Malta: Historical events, current affairs, future challenges. *Early Years*, 38(4), 337-350. doi:10.1080/09575146.2018.1512561
- Sollars, V. (2019). *Parents matter and parents' matters in early childhood education*. Public lecture presentation, June 19th 2019, University of Malta, Malta.

- Sommer, D. (2012). *A Childhood Psychology: Young Children in Changing Times*. New York: Palgrave Macmillan.
- Sommer, D., Pramling Samuelsson, I., & Hundeide, K. (2013). Early childhood care and education: A child perspective paradigm. *European Early Childhood Education Research Journal*, 21(4), 459-475. doi:10.1080/1350293X.2013.845436
- Stacey, S. (2018). *Inquiry-Based Early Learning Environments: Creating, Supporting, and Collaborating*. St.Paul, MN: Redleaf Press.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks CA: Sage.
- Stake, R. (2005). Qualitative case studies. In: N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualitative research. The Sage handbook of qualitative research* (3rd ed.) (pp .443-466). Thousand Oaks CA: Sage.
- Stake, R. (2006). *Multiple case study analysis*. New York: The Guildford Press.
- Standards and Testing Agency (2018) *Early Years Foundation Stage Profile 2019 handbook*. Retrieved August, 31, 2019, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/790580/EYFSP_Handbook_2019.pdf
- Standards and Testing Agency (2019) *Assessment framework: Reception baseline assessment*. Retrieved August, 31, 2019, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/781766/Reception_baseline_assessment_framework.pdf
- Stein, D. & Valters, C. (2012). *Understanding theory of change in international development*. Retrieved from <https://www.theoryofchange.org/library/publications/>
- Stetsenko, A. (2005). Activity as Object-Related: Resolving the Dichotomy of Individual and Collective Planes of Activity. *Mind, Culture, and Activity*, 12(1), 70-88. doi: 10.1207/s15327884mca1201_6
- Sutinen, A. (2008). Constructivism and education: Education as an interpretative transformational process. *Studies in Philosophy and Education*, 27(1), 1-14. doi: 10.1007/s11217-007-9043-5
- Swartz, R. and McGuinness, C. (2014). *Developing and assessing thinking skills the international baccalaureate project 2014: Final report part 1: Literature review and evaluation framework*. Retrieved from: <https://www.ibo.org/globalassets/publications/ib-research/continuum/student-thinking-skills-report-part-1.pdf>
- Swartz, R. & Parks, S. (1994). *Infusing the Teaching of Critical and Creative Thinking into Content Instruction*. Pacific Grove: Critical Thinking & Software.
- Sweeney, S., & Fillmore, R. (2018). The Birds, the Children, and the Big Black Dog: Reflecting on Emergent Curriculum. *YC Young Children*, 73(1), 69-72.

- Sylva, K., Melhuish, E.C., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). *The effective provision of pre-school education (EPPE) project: Final report*. Retrieved August, 31, 2019, from <http://discovery.ucl.ac.uk/10005309/>
- Sylva, K., Taggart, B., Siraj-Blatchford, I., Totsika, V., Ereky-Stevens, K., Gilden, R., & Bell, D. (2007). Curricular quality and day-to-day learning activities in preschool. *International Journal of Early Years Education*, 15(1), 49-65.
- Taggart, G., Ridley, K., Rudd, P., & Benefield, P. (2005). *Thinking Skills in the Early Years : A Literature Review*. National Foundation for Educational Research. Retrieved August, 31, 2019, from <https://www.nfer.ac.uk/publications/tsk01/tsk01.pdf>
- Taplin, D. & Clark, M. (2012). *Theory of change basics: A primer on theory of change*. Retrieved from <https://www.theoryofchange.org/library/publications/>
- Taplin, D. & Rasic, M. (2012). *Facilitators' source book: Source book for facilitators leading theory of change development sessions*. Retrieved from <https://www.theoryofchange.org/library/publications/>
- Taylor, J. (2011) The intimate insider: negotiating the ethics of friendship when doing insider research, *Qualitative Research*, 11(1), 03-22. doi: 10.1177/1468794110384447
- Thake, C. (1994). Interpreting the landscape of the Maltese islands. *Traditional Dwellings and Settlements Review*, 5(2), 37-47. Retrieved from <https://www-jstor-org.sheffield.idm.oclc.org/stable/pdf/41757169.pdf?refreqid=excelsior%3A73b14246a62df388a3eb43b7e6d48f2c>
- The Council of the European Union. (2015). 2015 Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020): New priorities for European cooperation in education and training (2015/C 417/04). *Official Journal of the European Union*, 58, 25-35. Retrieved from [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1215\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1215(02)&from=EN)
- The Council of the European Union. (2018). Council recommendation of 22 May 2018 on key competences for lifelong learning (Text with EEA relevance) (2018/C 189/01). *Official Journal of the European Union*, 61, 1-13. Retrieved from [https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1567747966752&uri=CELEX:32018H0604\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1567747966752&uri=CELEX:32018H0604(01))
- Timmons, V. & Cairns, E. (2010). Case Study Research in Education. In: A. Mills, G. Durepos & E. Wiebe (Eds.). *Encyclopedia of Case Study Research*. Volume 1. (pp. 99-102). Retrieved from <https://archive.org/details/2.encyclopediaOfCaseStudyResearch/page/n127>
- Torquati, J., Raikes, H., & Huddleston-Casas, C. (2007). Teacher education, motivation, compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. *Early Childhood Research Quarterly*, 22(2), 261-275.
- Towson, J., Fettig, A., Fleury, V., & Abarca, D. (2017). Dialogic Reading in Early Childhood Settings: A Summary of the Evidence Base. *Topics in Early Childhood Special Education*, 37(3), 132-146. doi: 10.1177/0271121417724875

- Trevarthen, C. & Delafield-Butt, J. (2015). The infant's creative vitality, in projects of self-discovery and shared meaning: how they anticipate school, and make it fruitful. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 3-18). Oxon: Routledge.
- United Nations Convention on the Rights of the Child [UNCRC] (1989). *Convention on the Rights of the Child*. Retrieved from <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>
- Vajargah, K., Arefi, M., & Taraghija, A. (2010). Teacher's role in the formation of emergent curriculum inspired by the Reggio Emilia Approach (An experience from Iran). *New Educational Review*, 20(1), 206-224.
- Valsiner, J. (2007). *Culture in minds and societies: Foundations of cultural psychology*. Los Angeles, CA: Sage.
- van Der Veen, C., & van Oers, B. (2017). Advances in research on classroom dialogue: Learning outcomes and assessments. *Learning and Instruction*, 48, 1-4. doi: 10.1016/j.learninstruc.2017.04.002
- van Der Veen, C., De Mey, L., Van Kruistum, C. & van Oers, B. (2017). The effect of productive classroom talk and metacommunication on young children's oral communicative competence and subject matter knowledge: An intervention study in early childhood education. *Learning and Instruction*, 48, 14-22. doi: 10.1016/j.learninstruc.2016.06.001
- Vanegas-Grimaud, L. (2017). The Command Center Project. *YC Young Children*, 72(3), 60-68.
- Veenman, S. (1984). Perceived Problems of Beginning Teachers. *Review of Educational Research*, 54(2), 143-178.
- Vengopal, K. (2015). Blooming Flowers: A case for developmentally appropriate practice. *Journal of Early Childhood Research*, 13(2), 126-136. doi: 10.1177/1476718X14538597
- Veraksa, N., Shiyan, O., Shiyan, I., Pramling, N. & Pramling-Samuelsson, I. (2016). Communication between teacher and child in early child education: Vygotskian theory and educational practice / La comunicación entre profesor y alumno en la educación infantil: La teoría vygotkiana y la práctica educativa. *Infancia Y Aprendizaje*, 39(2), 221-243. doi: 10.1080/02103702.2015.1133091
- Weiss, C. H. (1995). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families. In: J. Connell, A. Kubisch, L. Schorr & C. Weiss (Eds.), *New Approaches to Evaluating Community Initiatives: Concepts, Methods and Contexts* (pp. 65-92). Retrieved from <https://files.eric.ed.gov/fulltext/ED383817.pdf>
- Wien, C.A. (2014). *The power of emergent curriculum: Stories from early childhood settings*. Washington, DC: NAEYC.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: MIT Press.

- Waite, S. (2016). Learning with nature: A how-to guide to inspiring children through outdoor games and activities. *Pastoral Care in Education*, 34(4), 246-247. doi: 10.1080/02643944.2016.1198462
- Wallace, B. (2002) *Teaching Thinking Skills Across the Early Years*, London: David Fulton.
- Wallace, B. (Ed.). (2013). *Teaching thinking skills across the early years: a practical approach for children aged 4-7*. London: David Fulton Publishers Limited.
- Watson, J. (1994). Psychology as the Behaviorist Views It. *Psychological Review*, 101(2), 248-253. doi: 10.1037/0033-295X.101.2.248
- Wellington, J. (2015). *Educational Research: Contemporary Issues and Practical Approaches*. London: Bloomsbury Academic.
- Welsh Government. (2015). *Curriculum for Wales: Foundation Phase Framework*. Retrieved August, 31, 2019, from <https://gov.wales/sites/default/files/publications/2018-02/foundation-phase-framework-revised-2015.pdf>
- Wegerif, R., Li, L. & Kaufman, J. C. (2015). Introduction. In: R. Wegerif, L. Li & J. C. Kaufman (Eds.), *The Routledge International Handbook of Research on Teaching Thinking*. (pp. 1-7). Oxon: Routledge.
- Wertheimer, M. (1938). Gestalt theory. In W. D. Ellis (Ed.), *A source book of Gestalt psychology*. (pp. 1-11). London, England: Kegan Paul, Trench, Trubner & Company. <http://dx.doi.org/10.1037/11496-001>
- White, E., Peter, M., & Redder, B. (2015). Infant and teacher dialogue in education and care: A pedagogical imperative. *Early Childhood Research Quarterly*, 30, 160-173. <http://dx.doi.org/10.1016/j.ecresq.2014.10.008>
- White, J. (2002). *The child's mind*. London: RoutledgeFalmer.
- Whitebread, D., Pino-Pasternak, D. & Coltman, P. (2015). Making Learning Visible: The Role of Language in the Development of Metacognition and Self-Regulation in Young Children. In: S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding*. (pp. 199-214). Oxon: Routledge.
- Williamson, T. (2013). How Deep is the Distinction between A Priori and A Posteriori Knowledge? 1. In: A. Casullo & J. C. Thurow (Eds.) *The a priori in philosophy*. (Chapter 13). Retrieved from <https://www-oxfordscholarship-com.sheffield.idm.oclc.org/view/10.1093/acprof:oso/9780199695331.001.0001/acprof-9780199695331-chapter-14#>
- Willig, C. (2014). Interpretation and analysis 1. In: U. Flick (Ed.), *The sage handbook of qualitative data analysis*. (pp. 136-150). Retrieved from <http://methods.sagepub.com.sheffield.idm.oclc.org/book/the-sage-handbook-of-qualitative-data-analysis/n10.xml>
- Winter, R., Griffiths, M., & Green, K. (2000). The 'Academic' Qualities of Practice: What are the criteria for a practice-based PhD? *Studies in Higher Education*, 25(1), 25-37. doi: 10.1080/030750700115993

- Wolcott, H. (1988). *Ethnography, a way of seeing* (2nd ed.). Plymouth: Altamira Press.
- Wong S. & Logan, H. (2016). Play in early childhood education: An historical perspective. In: T. Brabazon (Ed.), *Play: A theory of learning and change*. (pp. 7-26). Retrieved from https://www.springer.com/gp/book/9783319255477?utm_campaign=3_pier05_buy_print&utm_content=en_08082017&utm_medium=referral&utm_source=google_books#otherversion=9783319255491
- Wood, D., Bruner, J. & Ross, G. (1976) The role of tutoring in problem-solving. *Journal of Child Psychology and Psychiatry*, 17, 89–100. doi: 10.1111/j.1469-7610.1976.tb00381.x
- Wood, E. (2007). New directions in play: Consensus or collision? *Education 3-13*, 35(4), 309-320. doi: 10.1080/03004270701602426
- Wood, E. (2014). Free choice and free play in early childhood education: Troubling the discourse. *International Journal of Early Years Education*, 22(1), 4-18. doi: 10.1080/09669760.2013.830562
- Wood, E. (2019). Unbalanced and unbalancing acts in the Early Years Foundation Stage: A critical discourse analysis of policy-led evidence on teaching and play from the office for standards in education in England (Ofsted). *Education 3-13*, 47(7), 784-795. doi: 10.1080/03004279.2019.1622494
- Wood, E., & Bennett, N. (2000). Changing theories, changing practice: Exploring early childhood teachers' professional learning. *Teaching and Teacher Education*, 16(5), 635-647.
- Wood, E., & Hedges, H. (2016). Curriculum in early childhood education: Critical questions about content, coherence, and control. *The Curriculum Journal*, 27(3), 387-405. doi: 10.1080/09585176.2015.1129981
- Yin, R. (2009). *Case study research: Design and methods* (4th ed.). Applied Social Research Methods Series. Thousand Oaks, CA: Sage.
- Yin, R. (2011). *Qualitative research from start to finish*. New York: The Guilford Press.
- Zessoules, R. & Gardner, H. (1991). Authentic assessment: Beyond the buzzword and into the classroom. In: V. Perrone (Ed.), *Expanding student assessment* (pp. 47-71). Retrieved from <https://archive.org/details/expandingstudent00perr>
- Young, M. (2014). What is a curriculum and what can it do? *Curriculum Journal: Creating Curricula: Aims, Knowledge, and Control*, 25(1), 7-13.
- Zuckerman, G. (2003). The Learning Activity in the First Years of Schooling: The Developmental Path Toward Reflection. In: A. Kozulin, B. Gindis, V. S. Ageyev & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 177-199). Cambridge: Cambridge University Press.

Appendices

Appendix A: Ethical Approval



Downloaded: 17/06/2018
Approved: 07/08/2017

Shirley Ann Gauci
Registration number: 150108067
School of Education
Programme: EDUR33 PHD/Education (Malta)

Dear Shirley Ann

PROJECT TITLE: Investigating and supporting thinking and reasoning in young children within Maltese Kindergarten settings
APPLICATION: Reference Number 015108

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 07/08/2017 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 015108 (dated 04/08/2017).
- Participant information sheet 1034463 version 1 (18/07/2017).
- Participant information sheet 1034464 version 1 (18/07/2017).
- Participant information sheet 1034465 version 1 (18/07/2017).
- Participant consent form 1034468 version 1 (18/07/2017).
- Participant consent form 1034467 version 1 (18/07/2017).
- Participant consent form 1034466 version 1 (18/07/2017).

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since written approval will be required.

Yours sincerely

David Hyatt
Ethics Administrator
School of Education

Appendix B: Approval from The Secretariat for Catholic Education

Segretarjat għall-Edukazzjoni
Nisraniġa
16, Il-Mall, Furjana FRN 1472
Num. ta' Tel. 27790060
Num. Tal-Fax 27790078



Secretariat for Catholic Education,
16, The Mall, Floriana FRN 1472
Tel. No. 27790060
Fax No. 27790078

24th August 2017

Ms Shirley Ann Gau:

**Permission to Carry out Research in Church Schools**

Dear Ms Gau:

I am very pleased to inform you that you have been granted permission to carry out your research entitled *Investigating and supporting thinking and reasoning in young Maltese Children* as part of your studies leading to a Doctoral degree with the University of Sheffield.

Kindly do not hesitate to contact me should you need further help.

Wishing you the best in your research and your studies.

Kind Regards,

A handwritten signature in black ink, appearing to read 'Dr Rose Anne Cuschieri'. The signature is fluid and cursive.

Dr Rose Anne Cuschieri
EdD (Sheffield); MEd (Sheffield); BA (Mell); Cert.Ped
Director for Educational Services in Church Schools
Secretariat for Catholic Education

Appendix C: Interview schedule for first interview with Headteacher

1. What is your general opinion on the cultivation of thinking skills in young children?
2. The National Curriculum Framework and the proposed Learning Outcomes Framework state that young children should be enabled to foster their thinking skills from a very early age.
 - a. What is your opinion?
 - b. Do you think that these skills are important? Why?
 - c. Do you think that these skills are given their due attention in Early Years? Why?
 - d. In what ways can these aims be met?
3. What do you think are the elements that need to be present in the setting in order to cultivate thinking skills in kindergarten children?
4. a. Do you think that the current learning programme in Kindergarten X and Kindergarten Y is enabling the children to foster high quality thinking skills?
 - b. What are your main reasons?
 - c. Is there anything that you would change?
5. Current literature on early childhood education suggests that inquiry-based pedagogy can support children in their thinking skills development.
 - a. Do you think that inquiry-based learning can be applied in Kindergarten X and Kindergarten Y?
 - b. Can you please give me your reasons?
6. a. Do you think that the cultivation of thinking skills can help the children to develop holistically?
 - b. What are your reasons?
7. Current literature on early childhood education indicates that children who are enabled to nurture their thinking skills in early childhood are more likely to succeed during their formal education.
 - a. Do you agree?
 - b. Can you please explain your views?
8. a. Do you think that the cultivation of thinking skills from a very early age can help the children to foster lifelong learning skills?
 - b. Can you please explain further?

Appendix D: Interview schedule for second interview with Headteacher

1. Can you please give me your general opinion about the case study?

2. *Sharing and discussion findings with the Headteacher.*
 - a. Considering the evidence, has the case study met your expectations?
 - b. Can you please explain why?

3. a. Do you wish, as a school leader, that the practitioners will continue to implement the learnt strategies in their daily activities?
 - b. What are your main reasons?

Appendix E: Question schedule for first Focused Conversation with Educators

1. What is your general opinion on the cultivation of thinking skills in young children?
2. The National Curriculum Framework and the proposed Learning Outcomes Framework state that young children should be enabled to cultivate their thinking skills from a very early age.
 - a. Do you agree with this statement?
 - b. From your experiences, do you think that this is possible?
 - c. Do you consider these skills to be important? Why?
 - d. In what ways can these aims be fulfilled?
 - e. Are these skills given their due importance in Early Years seminars and courses that are organised for you as practitioners in Kindergarten schools?
3.
 - a. Do you think that the activities you are organising for your children are supporting them to foster their thinking skills?
 - b. In what ways?
 - c. Is there anything that you would change?
 - d. Would you like to learn about new approaches?
4. Current literature on early childhood education suggests that inquiry-based pedagogy can support children to cultivate their thinking skills.
 - a. Do you think that inquiry-based pedagogy can be applied within your setting?
 - b. Do you think that you can integrate inquiry-based pedagogy with your activities so that the children can develop their thinking abilities alongside other skills?
5. Thinking skills development can help the children to develop holistically.
 - a. Do you agree?
 - b. What are your reasons?
6. Current literature on early childhood education indicates that children who are empowered to develop their thinking skills in early childhood are more likely to succeed during their formal education.
 - a. Do you agree?
 - b. Can you please explain your views?
7.
 - a. Do you think that thinking skills development from a very early age can help the children to foster lifelong learning skills?
 - b. Can you please elaborate on your reply?
8. What are your expectations for this case study?

Appendix F: Question schedule for second Focused Conversation with Educators

1. Can you please share your general opinion about the case study?

 2. a. Do you think that this case study has helped the children to cultivate their thinking potential?
b. In what ways?

 3. What do you think about the inquiry-based approaches that were implemented during the activities?

 4. What do you think of the project approach as a means to foster the thinking potential of the children?

 5. Do you plan to continue to implement inquiry-based approaches after the case study?

 6. Was there a particular activity or a conversation that you had with the children that has left a particular influence on you as an educator?

 7. In hindsight, has the case study met your expectations? Can you please explain why?

 8. Was this case study a beneficial learning experience to you as an educator?

 9. Is there anything that you would have done in a different way?
-

Appendix G: Observation Protocol

Observation Protocol

Date: _____

Setting No: _____

Practitioners: _____

No. of children present: _____

Main activity/ tasks: _____

Teaching objectives: _____

Organisation of setting/ learning environment: _____

Resources: _____

Development of activities: _____

Any important unexpected events: _____

Thinking Skills Protocol

Area 1: Information- Processing

<u>Thinking Skills</u>	<u>Description</u>
identifying/recognising/labelling	
sorting/classifying/organising/grouping	
sequencing	
comparing	

Area 2: Critical Thinking and Reasoning

<u>Thinking Skill</u>	<u>Description</u>
thinking logically	

Area 3: Creative Thinking

<u>Thinking Skill</u>	<u>Description</u>
hypothesising	
making assumptions	
imagining	
exploring ideas	

Area 4: Problem Solving

<u>Thinking Skill</u>	<u>Description</u>
predicting	
asking questions	
investigating	
is curious to explore more	

Area 5: Metacognition

<u>Disposition</u>	<u>Description</u>
concentrating	
Persevering in the face of challenge	
enthusiastic/motivated	
taking risks	
Learning from mistakes	
Accepting criticism	

Appendix H: Examples of details kept about observations

<u>Obs. No.</u>	<u>Date</u>	<u>Time</u>	<u>Setting</u>	<u>Observed Activity/ies</u>	<u>Type of Observation</u>	<u>Location</u>	<u>Reason for observing this activity</u>	<u>Children</u>
14(SS-7)	18/4/2018	8:15 – 10:15	SS	Tasting different fruit Preparing the cookies, fruit salad and wraps for the party	In groups to listen to the dialogues between the children and individual to observe their note taking In three groups, each group preparing one item	Setting Setting	To observe how they were going to conduct the experiment and the way they were going to take notes of their observations To observe how they work collaboratively, listen to Alison in her role as more knowledgeable other	As a whole group In three groups
15(RS-8 and SS-8)	18/4/2018	10:30 – 11:30	RS and SS	Party to share and celebrate new learning	Whole group and in small groups	RS	To observe how the children related what they have learned to each other	As a whole group/ in small groups
16(HS-1)	23/4/2018	8:53 – 10:05	HS	Circle Time Introducing topic	Whole Class Whole Class	Setting Setting	Verify interest Develop Web/KWL chart	In a circle as a group Brainstorming activity Individual task to form web Active participation in KWL chart
17(HS-2)	24/4/2018	8:10 – 9:29	HS	Introducing topic Exploring seeds	Whole Class While working in groups	Setting School yard	Web/KWL chart To understand their reasoning while exploring/comparing seeds	In a circle In groups
18(HS-3)	25/4/2018	10:00 – 11:30	HS	Fieldwork	Whole Class and in groups/pairs	Rabat	To observe exploration and the reasoning throughout the activity	In groups
19(HS-4)	26/4/2018	8:46 – 9:50	HS	Investigating the material gathered during fieldwork	In groups	Setting	To observe how they investigated what they gathered	In groups
20(HS-5)	27/4/2018	8:46 – 9:37	HS	How can trees help us?	Whole class	Setting	To listen to how they justified their arguments/ to observe their creativity	As a whole group In pairs
21(HS-6)	30/4/2018	8:40 – 9:50	HS	Planting activity	In groups	Setting/ Yard	To listen to their justifications about creating a garden and observe them working on the task	As a whole group

Appendix I: Headteacher's information sheet and consent form**Information Sheet to Head of School**

Research Project Title: 'Investigating and supporting thinking and reasoning in young Maltese children'.

Invitation

I am conducting research and I would like to invite you to take part in a research project.

Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Feel free to ask if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part. Thank you for reading this.

Purpose of Research

Background:

I am currently a PhD student at the University of Sheffield, UK. As part of the requirement for my study, I am required to complete research in the field of education. In my role as Assistant Head of School, I am interested in an enquiry regarding the development of higher-order thinking skills in young children. A thorough review of the literature reveals that young children are able to reason, enquire and evaluate and that such cognitive dispositions empower them to develop their full potential as well as to foster lifelong learning skills.

Aim:

I am therefore conducting research to explore how effective and innovative thinking skills approaches can be implemented within Maltese kindergarten settings in order to both meet the Learning Outcomes Framework objectives for the Early Years and to equip Maltese young learners with the cognitive aptitudes to become successful 21st century lifelong learners.

Duration:

The study is expected to continue for one scholastic year however your participation will be limited to two interviews, one at the start and another at the end. You may be asked for an additional session if there is a need for further information.

Selection Process

I kindly ask for your participation in this research as you are the leader of both schools and your contribution is indispensable.

Taking part in the research is entirely voluntary and that refusal to agree to participate will involve no penalty and you may also choose to discontinue your participation at any time without once again any penalty.

Participation

As stated above, you will only be asked to be interviewed twice for approximately an hour. I will ask for your permission to use the audio recorder from which I will transcribe to write the report.

Recordings

The audio recordings of the interviews will be used only for analysis and for illustration in conference presentations and lectures. No other use will be made of them without your written permission, and no one else will be allowed access to the original recordings.

Possible Disadvantages and Risks of Participation

A possible concern for your participation is confidentiality since from the final report, some people who are familiar with these Kindergarten schools, can recognise that you are the headteacher. However, I will ensure that the details regarding these schools are limited so as to safeguard your confidentiality as well as that of all the other participants.

Possible Benefits of Participation

It is reasonably expected that this study will be of great benefit for both school communities, most importantly for the children. As a school leader, the study may help you to better understand the significance of the Early Years Cycle and the cognitive aptitudes that need to be developed from a very early age, alongside other academic and artistic competences, to facilitate holistic development and nurture lifelong learning skills in children.

Unexpected interruption of Research

In the case that the research is unexpectedly stopped, the reason(s) will be explained to you and any information recorded and reported will be destroyed.

Complaints about the Research

If you have complaints about this research and/or your participation, you may inform me (see the information provided below). If you cannot do so based on the nature of your concern, you can contact the study supervisor from the University of Sheffield, School of Education who will respond to your questions or concerns (see the information provided below). If you still feel that your complaint has not been handled to your satisfaction, you can contact the University's 'Registrar and Secretary'.

Confidentiality

All the information collected during the interviews will be kept strictly confidential and the transcripts, once translated to English, will be given back to you for verification. Additionally, I will not include any personal identifiers or unnecessary details about the schools in my report so as to safeguard confidentiality. All voice recordings, transcripts and data will be kept in a secure location that only I will have access to as the researcher. All data will be kept for a period of five years from the completion of the study after which it will be destroyed.

Outcomes of the Study

The outcome of the study will be a written thesis which will also be orally defended in the final Viva at the University of Sheffield. At the end of the study, I will provide you with a copy of my thesis. There is a possibility for the work to be published in academic publications. If this will be the case, confidentiality will always be respected.

Sponsorship

I am an Endeavour Scholarships Scheme awardee.

Ethical Review and Approval

This project has been ethically approved via the Ethics Review procedure of the School of Education at the University of Sheffield. Approval to conduct research was also obtained from the Director for Educational Services for Church Schools Secretariat for Catholic Education.

Contact for further information

Researcher:

Shirley Ann Gauci



Email: sagauci1@sheffield.ac.uk

Research Supervisor:

Prof. Cathy Nutbrown

The School of Education

The University of Sheffield
c.e.nutbrown@sheffield.ac.uk

Participant Consent Form for Head of School

Title of Project: Investigating and supporting thinking and reasoning in young Maltese children

Name of Researcher: Shirley Ann Gauci sagauci1@sheffield.ac.uk

Participant Identification Number for this project: HoS

Please initial box

1. I confirm that I have read and understand the information sheet dated on _____
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses.
4. I agree to take part in the above research project.

Name of Participant <i>(or legal representative)</i>	Date	Signature
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Shirley Ann Gauci	Date	Signature
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- Copies:
- Participants together with the Information Sheet
 - Research File

Appendix J: Practitioners' information sheet and consent form**Information Sheet for Practitioners**

Research Project Title: 'Investigating and supporting thinking and reasoning in young Maltese children'.

Invitation

I am conducting research and I would like to invite you to take part in a research project.

Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Feel free to ask if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part. Thank you for reading this.

Purpose of Research

Background:

I am currently a PhD student at the University of Sheffield, UK. As part of the requirement for my study, I am required to complete research in the field of education. In my role as Assistant Head of School, I am interested in an enquiry regarding the development of higher-order thinking skills in young children. A thorough review of the literature reveals that young children are able to reason, enquire and evaluate and that such cognitive dispositions empower them to develop their full potential as well as to foster lifelong learning skills.

Aim:

I am therefore conducting research to explore how effective and innovative thinking skills approaches can be implemented within Maltese kindergarten settings in order to both meet the Learning Outcomes Framework objectives for the Early Years and to equip Maltese young learners with the cognitive aptitudes to become successful 21st century lifelong learners.

Duration:

The study is expected to continue for one scholastic year. However, your participation will consist in:

1. taking part in two focussed conversations together with the other staff members of your school. One will be held at the beginning of the research project and one at the end.
2. two to four observations in class. You may be asked for an additional session if there is a need for further information. Further details are given in the Participation section.

Selection Process

I kindly ask for your participation in this research as you are a member of the teaching staff at your school and your involvement is indispensable.

Taking part in the research is entirely voluntary and that refusal to agree to participate will involve no penalty and you may also choose to discontinue your participation at any time without once again any penalty.

Participation

As stated above, you will be asked to participate in two discussions (referred to as ‘focussed conversations’) and two to four observations will be conducted in your classroom. A preliminary meeting will be held at the school to clarify the study’s aspects and to explain in more detail the aim of the study.

The sole aim of the discussions and the observations is to explore effective and innovative strategies that foster high quality thinking in young children. You will be asked to be part of a group and together with your school colleagues, we will discuss thinking skills in young children. These discussions will be conducted in Maltese. This will take place twice; once at the beginning of the project and once at the end.

Regarding observations, I will not be evaluating you as an educator and these observations are in no way linked to any performance assessment. My main focus will be on the conversations that will take place between you and the children, the activities and the environment.

I will ask for your permission to use the audio recorder. The reason is for me to be able to transcribe what is discussed and then be able to write the report. Once the discussions will be translated to English, they will ALL be given back to you for your verification before they are used for analysis.

I will also ask for your permission to take some photos during the activities. I will ensure that your anonymity will be safeguarded and that you will not be recognised. The photos will ALL be given back to you for your verification before they are used for analysis.

Audio-visual data

The transcriptions of the discussions and the photos will be used only for analysis and for illustration in conference presentations and lectures. No other use will be made of them without your written permission, and no one else will be allowed access to the original recordings.

Possible Disadvantages and Risks of Participation

A possible concern for your participation is confidentiality since from the final report, some people who are familiar with these Kindergarten schools, can recognise that you are a staff member in these schools. However, I will ensure that the details regarding these schools are limited so as to safeguard your confidentiality and anonymity as well as those of all the other participants.

Possible Benefits of Participation

It is reasonably expected that this study will be of great benefit for both school communities, most importantly for the children. As a kindergarten practitioner, the study may help you to better understand the significance of the Early Years Cycle and the cognitive aptitudes that need to be developed from a very early age alongside other academic and artistic competences to facilitate holistic development and nurture lifelong learning skills in children.

Unexpected interruption of Research

In the case that the research is unexpectedly stopped, the reason(s) will be explained to you and any information recorded and reported will be destroyed.

Complaints about the Research

If you have complaints about this research and/or your participation, you may inform me (see the information provided below). If you cannot do so based on the nature of your concern, you can contact the study supervisor from the University of Sheffield, School of Education who will respond to your questions or concerns (see the information provided below). If you still feel that your complaint has not been handled to your satisfaction, you can contact the University's 'Registrar and Secretary'.

Confidentiality

All the information collected during the conversations and the observations will be kept strictly confidential and as said above, all the transcripts and photos will be given back to you for verification. Additionally, I will not include any personal identifiers or unnecessary details about the schools in my report so as to safeguard confidentiality. All voice recordings, transcripts and data will be kept in a secure location that only I will have access to as the researcher. All data will be kept for a period of five years from the completion of the study after which it will be destroyed.

Outcomes of the Study

The outcome of the study will be a written thesis which will also be orally defended in the final Viva at the University of Sheffield. At the end of the study, I will be willing to discuss the results with you. There is a possibility for the work to be published in academic publications. If this will be the case, confidentiality will always be respected.

Sponsorship

I am an Endeavour Scholarships Scheme awardee.


Ethical Review and Approval

This project has been ethically approved via the Ethics Review procedure of the School of Education at the University of Sheffield. Approvals to conduct research was also obtained from the Director for Educational Services for Church Schools Secretariat for Catholic Education and from the Head of School.

Contact for further information

Researcher:

Shirley Ann Gauci


Email: sagauci1@sheffield.ac.uk

Research Supervisor:

Prof. Cathy Nutbrown

The School of Education

The University of Sheffield

c.e.nutbrown@sheffield.ac.uk

Participant Consent Form for Practitioners

Title of Project: Investigating and supporting thinking and reasoning in young Maltese children

Name of Researcher: Shirley Ann Gauci sagauci1@sheffield.ac.uk

Participant Identification Number for this project: SSM__

Please initial box

1. I confirm that I have read and understand the information sheet dated on _____ for the above project and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.

3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses.

4. I agree to take part in the above research project.

Name of Participant <i>(or legal representative)</i>	Date	Signature

Shirley Ann Gauci	Date	Signature

Copies:

- Participants together with the Information Sheet
- Research File

Appendix K: Parents' information sheet and consent form (including the English version of the letter)

Għezież ġenituri,

Jiena Shirley Ann Gauci, Viċi Kap fl-iskola St Francis f' Bormla u parti mix-xogħol tiegħi huwa li nieħu ħsieb li l-programm tat-tagħlim li jsir fl-iskola tal-Kindergarten li fiha jattendi t-tifel jew tattendi t-tifla tiegħek ikun tal-ogħla livell.

Bhalissa jiena qed nistudja għad-dottorat fl-edukazzjoni mal-Università ta' Sheffield li tinsab fir-Renju Unit. Bħala parti mill-istudju tiegħi irrid nagħmel riċerka fl-edukazzjoni. L-istudju jismu 'Investigating and supporting thinking and reasoning in young Maltese children'. Fir-rwol tiegħi bħala Viċi Kap responsabbli mit-tagħlim fis-snin bikrin, jiena qed nistudja dwar il-ħiliet li jgħinu lit-tfal biex jiżviluppaw il-ħsieb tagħhom minn età żgħira. Illum nafu li t-tfal żgħar huma kapaċi jirraġunaw, isaqsu u jixtar u dawn il-ħiliet jgħinuhom biex jikbru b'mod sħiħ u jiżviluppaw l-imħabba għat-tagħlim tul il-ħajja.

B'dan il-ħsieb, jiena qed nirriċerka dwar modi godda u effettivi ta' tagħlim li jistgħu jintużaw fl-iskejjel tal-Kindergarten Maltin biex anke t-tfal tagħna jiżviluppaw il-ħsieb tagħhom minn età żgħira filwaqt li bħala skola nassiguraw li nilhqu b'mod aħjar l-għanijiet kollha kif mistenni minna fid-dokumenti tal-edukazzjoni.

Għalhekk qed nistieden lilkom u lit-tfal tagħkom biex tiegħu sehem f'din ir-riċerka. Jekk jogħġbok aqra l-informazzjoni kollha u jekk tixtieq issaqsini xi haġa tista' tuża l-indirizz elettroniku mogħti fl-aħħar ta' din l-ittra.

Ir-riċerka fil-klassijiet ser tkun mifruxa bejn Jannar u Mejju. L-għalliema ser jagħmlu diversi attivitajiet ta' tagħlim li permezz tagħhom ser inkunu qed ngħinu lit-tfal biex jaħsbu aktar b'mod kreattiv u biex jitgħallmu jsaqsu aktar bil-għan li jitgħallmu aktar. Dan ser ikun rifless kemm fid-diskussjonijiet li jinholqu fil-klassi kif ukoll fix-xogħol tat-tfal.

Il-partecipazzjoni tiegħek hija volontarja u jekk tiddeċiedi li ibnek/bintek m'għandux j/tieħu sehem, din id-deċiżjoni mhux ser taffettwa lit-tifel/tifla tiegħek fl-iskola. Madankollu, jekk it-tfal kollha jieħdu sehem it-tagħlim isir aħjar għax l-attivitajiet ikun jista' jagħmilhom kulhadd.

Ser jittieħdu xi ritratti u vidjows waqt dawn l-attivitajiet u ser tiġi wkoll irrekordjata l-vuċi tat-tfal waqt id-diskussjonijiet li jsiru waqt l-attivitajiet. L-iskop huwa li dawn ir-riżorsi jkunu ta' għajjnuna għall-kitba tar-rapport tal-istudju u mhux ser jingħataw l-ismijiet u dettalji dwar it-tfal. Minbarra l-permess tagħkom, waqt l-attivitajiet ser jintalab ukoll il-permess mingħand it-tfal biex jittieħdu r-ritratti, il-vidjows u/jew tiġi rrekordjata l-vuċi tagħhom. Il-materjal kollu li jingabar ser jintwera lill-għalliema għall-verifikazzjoni tagħhom. Dan il-materjal ser jintuża

BISS għal din ir-riċerka u għall-preżentazzjoni tar-rapport finali f'xi 'lecture' jew konferenza. L-ebda użu ieħor mhux ser isir u hadd iktar mhux ser ikollu aċċess għall-materjal oriġinali. Jiena, bħala riċerkatriċi ser nassigura li l-kunfidenzjalità tkun strettament rispettata. Bħala proċedura, il-materjal jinżamm għal hames snin wara l-għeluq tar-riċerka u wara jiġi meqrud. Jekk għal xi raġuni r-riċerka tiegħi, kull materjal miġbur ikun meqrud.

Jekk għandek xi diffikultà dwar din ir-riċerka tista' ssaqsini permezz tal-indirizz elettroniku pprovdut fl-għeluq tal-ittra. Issib ukoll id-dettalji tas-'supervisor' tal-istudju tiegħi mill-Università ta' Sheffield.

Din ir-riċerka ser tingabar f'teżi u jista' jagħti l-każ li tiġi ppublikata f'xi pubblikazzjoni akkademika. Jekk dan ikun il-każ, kull kunfidenzjalità tkun dejjem rispettata.

Din ir-riċerka giet approvata mill-Bord tal-Etika tal- Università ta' Sheffield u l-permessi meħtieġa ngħataw mid-Direttur għas-Servizzi fl-Edukazzjoni fis-Segretarjat għall-Edukazzjoni Nisranija u mill-Kap tal-iskola.

Kuntatti għal aktar informazzjoni

Riċerkatriċi:

Shirley Ann Gauci



Email: sagauci1@sheffield.ac.uk

'Supervisor' tar-riċerka:

Prof. Cathy Nutbrown

The School of Education

The University of Sheffield

c.e.nutbrown@sheffield.ac.uk

Information Letter to Parents

Dear parents,

I am Shirley Ann Gauci; Assistant Head of School at St Francis Primary School in Cospicua. One of my duties is to monitor the learning programme implemented at the Kindergarten school attended by your child so as to ensure that it is of high quality and standard.

I am currently a PhD student at the University of Sheffield, UK. As part of the requirement for my study, I am required to complete research in the field of education. My research is entitled 'Investigating and supporting thinking and reasoning in young Maltese children'. In my role as Assistant Head of School responsible for the Early Years learning programme, I am studying about how young children can be helped to develop their thinking skills from a very early age. Today we are aware that young children are capable of reasoning, enquiring and evaluating and that such cognitive dispositions empower them to develop holistically as well as to foster lifelong learning skills.

I am therefore conducting research about new and effective learning approaches that can be used within Maltese kindergarten settings so that our children can develop their thinking abilities from a very early age and at the same time, as a school, we make sure that we achieve in a better way all the aims indicated in the Maltese education documents.

So, I am inviting you and your child to take part in this research. Please read all the information and if you wish to ask me something, you can use the email address written the end of this letter.

This research will take place between January and May. The teachers will be doing different learning activities through which we will be helping the children to think in a more creative way and to ask more questions so that they can learn more about the task at hand. This will be reflected in the conversations that will be created in class as well as in the children's work.

Your participation is voluntary and if you decide that your child does not have to take part, your decision will not affect your child in any way at school. However, if all the children participate, the learning experience will be more effective since the activities will be done by all the children in the class.

During the activities, photos will be taken and the children's conversations will be recorded. The reason is for me to use these resources in the writing of the report and no unnecessary details will be given about the children. Besides your parental consent, during the activities the children will be asked to give their permission to allow me to take photos and to record their conversations. All the data will be shown to the teachers for their approval. This data will ONLY be used for this research and for the presentation of the final report in conference

presentations and lectures. No other use will be made of the data and no one else will be allowed access to the original recordings.

I, as the researcher, am going to make sure that confidentiality will be strictly respected. All data will be kept for a period of five years from the completion of the study after which it will be destroyed. In the case that the research is unexpectedly stopped, any information recorded and reported will be destroyed.

If you have difficulties about this research and/or your participation, you may contact me on the email address provided at the end of this letter. You can also find the details of my study supervisor from the University of Sheffield.

This research will be compiled in a thesis and there is a possibility for the work to be published in academic publications. If this will be the case, confidentiality will always be respected.

This research has been ethically approved via the Ethics Review procedure of the School of Education at the University of Sheffield. Approval to conduct research was also obtained from the Director for Educational Services for Church Schools Secretariat for Catholic Education and from the Head of School.

Contact for further information

Researcher:
Shirley Ann Gauci
[REDACTED]
Email: sagauci1@sheffield.ac.uk

Research Supervisor:
Prof. Cathy Nutbrown
The School of Education
The University of Sheffield
c.e.nutbrown@sheffield.ac.uk

Formola tal-kunsens għall-ġenituri

Titlu tal- Proġett: Investigating and supporting thinking and reasoning in young Maltese children

Riċerkatriċi: Shirley Ann Gauci - sagauci1@sheffield.ac.uk

Numru ta' indentifikazzjoni tal-partecipant: Ġ__

Jekk jogħġbok immarka fil- kaxxa

1. Jiena nikkonferma li qrajt u fhimt l-informazzjoni mogħtija fuq din l-ittra datata ____
_____ u li kelli ċ-ċans li nsaqsi għal aktar informazzjoni.

2. Jiena nifhem li l-partecipazzjoni tiegħi hija volontarja u li nista' nieqaf nieħu sehem
mingħajr ma nagħti raġuni.

3. Jiena nifhem li kull materjal ser jinżamm anonimu. Jiena nagħti permess lis-
'supervisor' tar-riċerkatriċi biex ikollhom aċċess għal dan il-materjal anonimu.

4. Jiena naqbel li t-tifel/tifla tiegħi j/tieħu sehem f' din ir-riċerka.

Isem tal-ġenitur

Data

Firma

(jew kustodju legali)

Shirley Ann Gauci

Data

Firma

Kopji:

- Lill-ġenituri tat-tfal li ser jippartecipaw
- Għand ir-riċerkatriċi

Appendix L: Assent presentation

Hello!!

I like to learn about how children use their thinking

My photo

Your school

photo of the school

My school

You will be

planning together

sharing and discussing your experiences

rubbing things together

working together

showing what you are learning

discussing things together

Doing these activities I will

take photos

take videos

You can say

OR

and it is

If you say

please take a card pin and draw your face on the paper

draw your face

I will ask you if it is

before using the

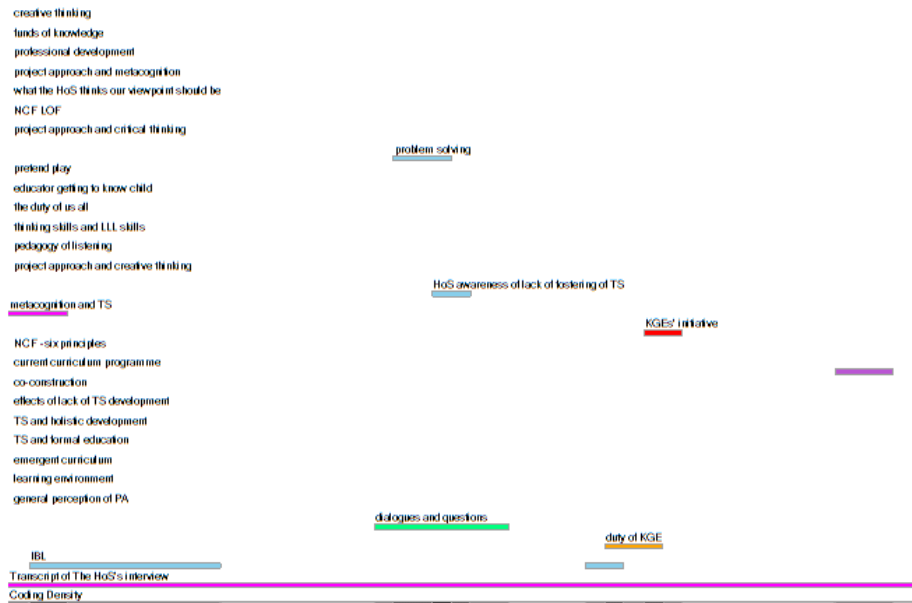
every time and as

Thank you

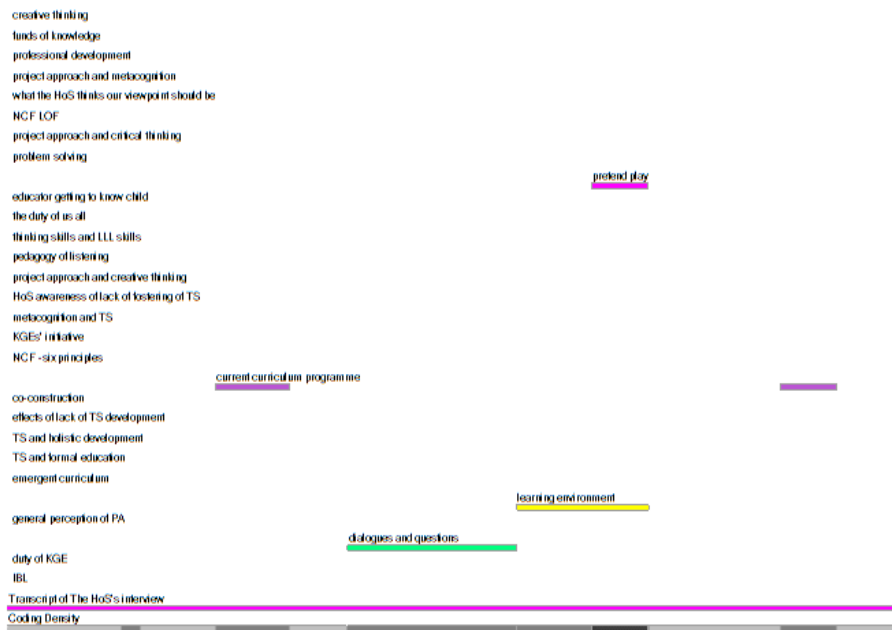
Appendix M: Transcript of the first interview with Headteacher

<p>funds of knowledge professional development project approach and metacognition what the HoS thinks our viewpoint should be</p> <p>project approach and critical thinking problem solving pretend play educator getting to know child the duty of us all thinking skills and LLL skills pedagogy of listening project approach and creative thinking</p> <p>metacognition and TS KGEs' initiative</p> <p>current curriculum programme co-construction</p> <p>TS and holistic development TS and formal education emergent curriculum learning environment general perception of PA dialogues and questions duty of KGE IBL</p> <p>Transcript of The HoS's interview</p> <p>Coding Density</p>	<p>creative thinking</p> <p>NCF LOF</p> <p>NCF - six principles</p> <p>effects of lack of TS development</p>	<p>1A</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------	-----------

<p>Me: First of all, thanks XXXX for giving me this opportunity to hold this interview. We are going to discuss thinking skills in young children, KG-aged children. Can you please give me your general opinion on the development of thinking in young children?</p>	<p>HoS: My opinion is that thinking skills are not being fully developed in children. I'm afraid they are being hindered. We need to say as well that in the early years the children need to develop certain thinking skills that if these are not developed, they would have missed an opportunity, they will suffer in the future, even if they would be older, they would still have missed that phase in which they would have developed their thinking skills that in my opinion, they could have learnt them at a very tender age, you understand... so what's happening? I notice that the children remain babyish and this remains with them during the primary years.</p>
<p>Me: You are saying that it continues to reflect itself?</p>	<p>HoS: Yes, it continues to reflect itself, that's right and it is for this reason that I think that in KG, the children are not developing their thinking skills enough.</p>
<p>Me: I would like to ask you about the NCF. The National Curriculum Framework and the proposed Learning Outcomes Framework ... that will soon come in force... state that young children should be enabled to foster their thinking skills from a very early age. What is your opinion?</p>	<p>HoS: I thoroughly agree 100% because as I already told you, the children can develop certain skills that we don't want them to miss their use as adults.</p>
<p>Me: Do you think that these skills are important? Why?</p>	<p>HoS: Yes a lot because they would be developing their creativity, they would think on a higher level.</p>
<p>Me: Do you think that these skills are given their due attention in early years?</p>	<p>HoS: Now, according to the NCF and the LoFs, they are given their due attention. In the NCF you have six fundamental principles that one has to follow ... the entitlement to education which shows the development of the child as he proceeds from one stage to another ... different stages in learning. There is diversity as well, one has to pay attention to the needs and the interests of every child, there is the continuation of achievement which means that we need to help the child to be able to show his full potential, we should not be afraid and say that he is not capable, there has to be learner-centred learning which means that we need to focus on the needs and the skills of what interests the child, this is also important.</p> <p>Then there are the LOs as well, right? I think that with thinking skills the children will have a more positive attitude towards learning ... through the thinking skills. They become more confident. You may ask me... how? Because I believe that the</p>



- child, to become more confident, I think it depends, according to my knowledge, on his thinking skills and it is crucial that in education you start from real life experiences.
- Me: ...through experience ...
- HoS :that's right. Then, you have the fact that children need to be able to connect their learning to their own lives even to the world around them, I mean if we teach the children, for example about a leaf in the classroom, they would be able, when they are outdoors in the countryside to do the connection between the leaf they are seeing to what they saw in class.
- Me: So, in your opinion in early years, due attention is being given to thinking skills.
- HoS: It is but there is still a long way to go and it is an area that still needs to be developed further.
- Me: So how do you think that this can be done? Can you elaborate further please?
- HoS: First and foremost, by talking with the children, asking them questions...challenging their thoughts. By means of dialogues and questions the children will find it easier to see different solutions to solve their problems, brainstorm their ideas as well and eventually become better problem solvers. As I said earlier, I don't think that the children in our Kindergartens are being challenged enough, even though everyone knows the advantages of using dialogues. No, I think there is still a long way to go to ascertain ourselves that our children are benefitting from this teaching strategy.
- Me: Are there any more elements that you think should be present in the KG setting to cultivate thinking skills?
- HoS: By having more hands-on and more practice with the things that they see around them...by having the KGEs organising activities that challenge the children, although this principle is well known, I don't think that it is always practised as it should. Interesting and challenging activities. It always depends on how much the teacher enables him to flourish...it heavily depends on the teacher. For example, more or less, big and little...even through a song, hands-on activity, even created by the child himself. For example, more or less, you can show him three apples and four apples or six apples. So the teacher has to move from the abstract to the concrete.
- Me: Do you think that the current learning programme in KG X and KG Y is enabling the children to develop high quality thinking skills?
- HoS: I think that if the programme handed to us from outside is built on enabling the children to develop in all domains, then yes, it is good. If it is not enabling the children to think, then it is not, it has to be revised.



3A

Me: Translate it into practice.

HoS: That's the thing, actually.

Me: about, if I may ask you, what do you think of the assessment reports?

HoS: Again, the reports are the reports. You have to adhere.

Me: So those were your main reasons. Is there anything that you would change in the programme?

HoS: As a programme, I say that one needs to see its effect... I mean after a certain period of time we need to do... not necessarily conduct research... but we need to look at its feedback... its evaluation. If we see that after two years these children should have reached this level but in truth they didn't, then it needs to be modified.

Me: Ok ...

HoS: Through reading a story for example, you take an excerpt from a text, I thought, and you engage in a dialogue with the child and you tell her "but why do you think that this boy has this facial expression which is so ugly or why do you think is he feeling sad?" or perhaps you can talk about an object that there is in the picture to broaden his thinking skills or perhaps listen to audio books or the parents reads out a story to him. In this way you are also helping him to develop his thinking skills because he will be helped to develop his creativity and imagination, that's what I think, the language in itself, there are the picture books, I was thinking (referring to the notes about the books "Visiting A Farm" which you can use in a million ways. You can also provide a learning rich environment.

Me: You mean the environment of the class?

HoS: Yes. You can also use drama and plays ... they can put on their costumes ... of a clown... of a fairy, ... and they pretend they are the characters in a story and behave as if they were the character they wear the costume of.

Me: As make-belief.

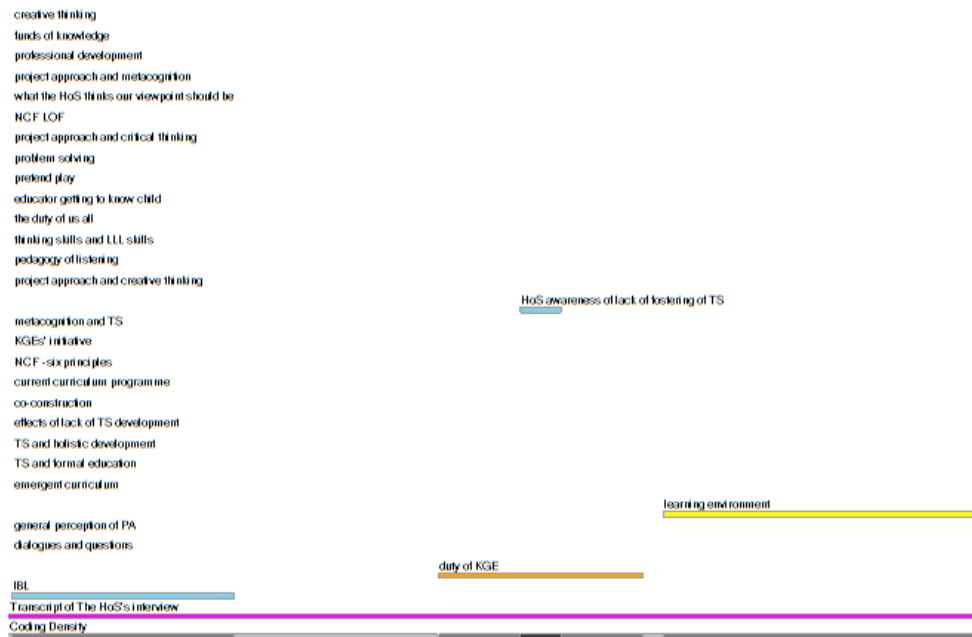
HoS: You can use puzzles as well...

Me: You mentioned a lot of things. So what would you change in the programme?

HoS: I think that in the programme we can insert more activities to help them cultivate... broaden... I think that that's where we need to go... that we need to enable the children much more.

Me: Good

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4A

HoS: These things... these changes... or for example, you can take them on a natural walk .. not necessarily leaving the school premises... even in the school yard... it is still a nature walk because you can take a flower and talk about it, you have hands-on, they are feeling it... do you understand?... you can also do what's called as measuring time... you are holding a conversation with the child and you ask her "So, where will you go today?" and the child answers "Today I am going to mum's house." and you ask "and where did you go yesterday?" and the child answers "yesterday, I went to nanna's". So you will include the concept of time. So, the child is going to think: So, yesterday it was a particular time and today, it is another time. So, you will be developing their imagination... and even the way they think, you will be broadening it.

Me: So, am I understanding you well? Are you linking their life experiences to their learning experiences? Is this correct?

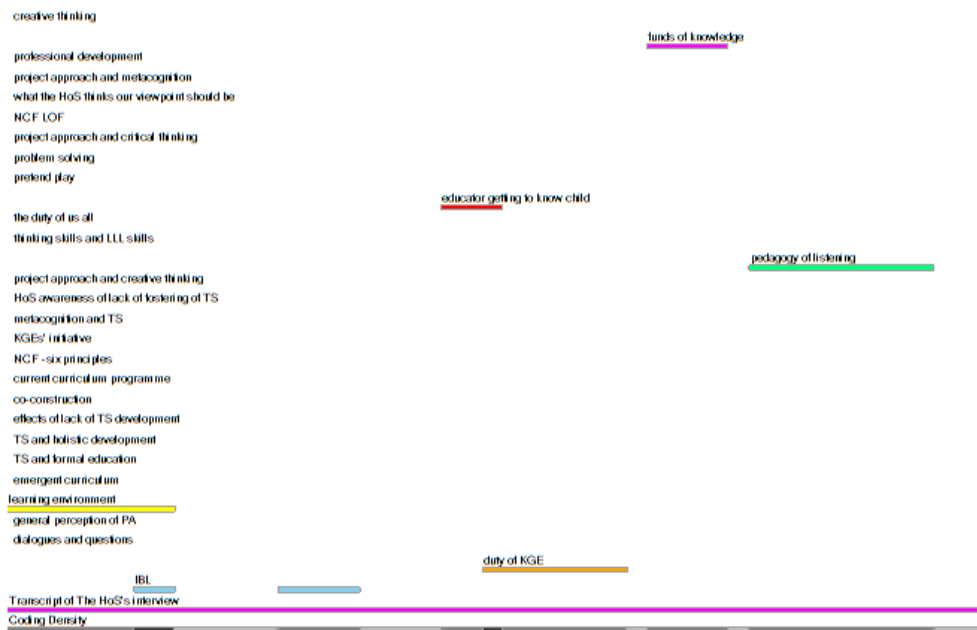
HoS: Yes.

Me: and with regards to the school programme, do you think that there are any particular elements that are hindering the teacher from doing these activities in class?

HoS: There shouldn't be because you (the teacher) needs to be able to link one thing with another, I mean, if I am doing a lesson on social development, I need to be able to link it with the activity that is going on in the classroom. It always depends on the teacher, on the initiative of the teacher, on the potential of the teacher, on the extent to which she is able to foster thinking skills in the children. I think that they mainly adhere to the programme handed from outside. The teacher should not be afraid to challenge the child because I believe in their potential and he can surprise the teacher with what he is capable of doing. I believe that the children can give us a lot of surprises. Everything depends on how much they allow them to flourish, elicit their potential.

Me: You said that the learning environment is really important. So, are there any essential elements that need to be part of the setting?

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5A

HoS: Yes of course, as a helping hand there needs to be certain things present. What does it take to have a plant in class? If we are saying from the abstract to the concrete ... What does it take to have some toys in class? Small things that matter a lot and make all the difference. I think that the environment of the class has to match the real life situation much more and with what you are presenting to the children. So, if I am going to visit the classroom setting and I notice that there are only pictures, the environment is not going to help the child to grow up. I believe much more in having tangible real life objects in class rather than their pictures.

Me: So, to check that I am understanding what you are saying ... when you say from the abstract to the concrete you mean that the teacher needs to present the things in tangible real life objects instead of in pictures, abstract pictures?

HoS: Exactly, it's better for the child to see the actual object, when this is possible rather than a picture of it. Many of the things that are mentioned in the classroom are in fact everyday objects and they can get the feel of. It's concrete experiences that they need.

Me: You already mentioned that the role of the teacher is crucial. Can you please elaborate on this?

HoS: You (as teacher) have to enter the life of the child... to help him... so this means that you need to know his background so that you can talk to him much easier, reach him much easier and teach him according to all of this. The teacher on the other hand, needs to be prepared by reading and keeps up to date, not always referring to what we used to do in the past and stop there. Her accountability is very important. The teacher must not say "I have only these five hours to teach". Many times she has to spend plenty of time dedicating herself to preparation so that she will give them her utmost. This is what she needs to do in order to be able to help him build on what he already knows.

Me: and do you think that it is important for the teacher to know what the child already knows?

HoS: Yes, as well.

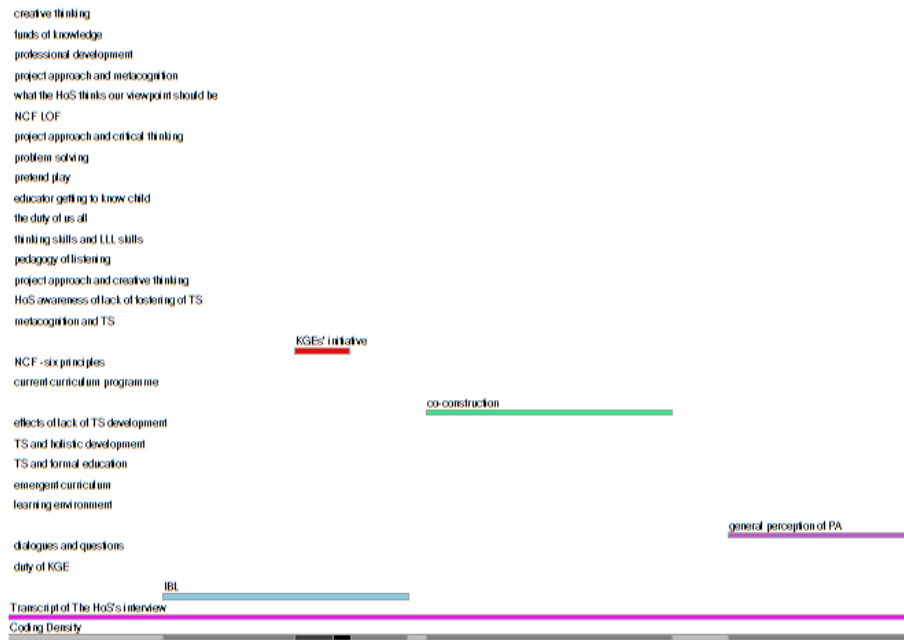
Me: An important approach used to reach this aim is the 'pedagogy of listening'. Have you ever heard about it?

HoS: No. What is it?

Me: It's when the teachers interact with the children and observe the children in order to plan further learning, to inform learning.

HoS: This sounds interesting. It is new for me and I think for the KGEs as well.

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Me: Thanks for sharing these ideas. Now I would like to discuss with you some concepts that I came across in the literature on early childhood education with regards to thinking skills. I have prepared a ppt to ease the discussion. What I am interested in is getting your opinion on whether these concepts and pedagogical methods can be applied within our context. The first thing is that inquiry-based pedagogy can support children in their thinking skills development. What is your opinion? (using the slides on inquiry-based pedagogy)

HoS: Yes, this what I was referring to. Hands-on, experiments, this what helps to develop thinking, not giving out pictures. They (the children) need to understand by doing, they need to actually feel what they are learning about.

Me: Do you think that inquiry-based pedagogy can be applied in our KGs?

HoS: Yes, of course, it can. I think that they [the educators] already do but in a very very limited way ... [pause] some more than others. There is still a long way to go as I said earlier. It all depends on their initiative and on their keeping up to date with new ideas. I buy all the resources that they ask me to buy, I'm doing my part. Understanding and conceptualisation has to be based on real life experiences ...eh... I mean.... if you are teaching plus, you need to give him things that he uses in real life.

Me: Let me go back to slide 3. Here in this picture, the teacher and the children are working together in a collaborative manner and they are building on each other's input. There is no difference between the teacher and the children because they are partners in the same endeavour. This is what is referred to as 'co-construction'. What do you think about this?

HoS: It sounds interesting as concept and it will surely help the children in their learning.

Me: Do you think that co-construction can be applied in our KGs?

HoS: [very long pause] I think that for this to succeed, you need to have fewer children in the class, more personnel in the classroom and the teachers need to be prepared for this because I don't think that our teachers are trained for this.

Me: Have you ever heard of the project approach?

HoS: I have heard about it through some of the circulars that are sent to us but it was never chosen as a topic in 'heads' meetings. I think that it is a new pedagogy that can be used in early years. What I saw is that if you don't try things out you will never know their worth. I know they (the practitioners) teach in themes but I don't know exactly if they have ever used the project approach. Perhaps XXXXX (Miss Victoria) uses it because she has recently graduated. As for the others, I don't think so because they are used to follow the syllabus and just that. But the others can be encouraged to use it as well if it is beneficial for the children's thinking skills

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creative thinking	
funds of knowledge	
professional development	
	project approach and metacognition
what the HoS thinks our viewpoint should be	
NCF LOF	project approach and critical thinking
problem solving	
pretend play	
educator getting to know child	
the duty of us all	
thinking skills and LLL skills	
pedagogy of listening	project approach and creative thinking
HoS awareness of lack of fostering of TS	
metacognition and TS	
	KGEs' initiative
NCF -six principles	
current curriculum programme	
co-construction	
effects of lack of TS development	
TS and holistic development	
TS and formal education	
	emergent curriculum
learning environment	
general perception of PA	
dialogues and questions	
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development. They need training, the school needs to provide training for these teachers.	
Me: (using the slides on the project approach) It is an approach that suggests the children choose what they want to learn about and the teacher leads them in their learning adventure. They conduct experiments, go on fieldwork, do the research and reach their own conclusions. Do you like it? What do you think about it? (using the slides on the project approach)	
HoS: Yes! This is it when I say we should move away from handouts. This is the approach that is so much needed if we want them (the children) to think. Hands-on ...experiments....this is what helps to develop thinking, not pictures on handouts. They (the children) need to understand by doing. Our KGEs should use this approach as it is indeed beneficial for the children's thinking skills development. It can lead them to think critically about what they have at hand, about what they hear people saying, ask questions spontaneously... not always answering the questions of the teacher. They come up with their own questions. So, they can be creative in a way, they would be developing their creativity, indeed, they will be encouraged to be creative because they know they can try out their ideas. They can check whether their ideas work and learn from them. So, they would think on a higher level, a level that, as an adult, expect from them. This approach to learning will enable them to have a more positive attitude towards learning because they will be more confident. However, one has to keep in mind that the application of these approaches depends upon the teacher's will, understanding and ability.	
Me: The project approach facilitates the implementation of the emergent curriculum, which is promoted in our policies. What do you think about it?	
HoS: I have never heard about it. Perhaps it was mentioned and I overlooked it. Can you explain it?	
Me: In brief, it is the curriculum that permits learning to emerge from the interests of the children. The curriculum starts from the child not the other way round. Learning becomes more interesting as the children are after their own queries. As they pursue their interests, they learn content as well because they need it to move on in their learning. But the difference is that content becomes useful for the children.	
HoS: Yes, I like the concept. I can understand how these concepts come all together. It is what is needed if we are after holistic development if we are looking beyond basic numeracy and literacy if we want to make them think. Having a programme that enables the children to think, without knowing, the child develops the skills that are so important in life. Definitely, in every aspect. Mentally, socially, in all aspects of life. If the child is helped, he can develop these skills, but if you hinder him if you suffocate his ideas, he stops there.	
Me: Do you think that it can be applied with our KG children?	

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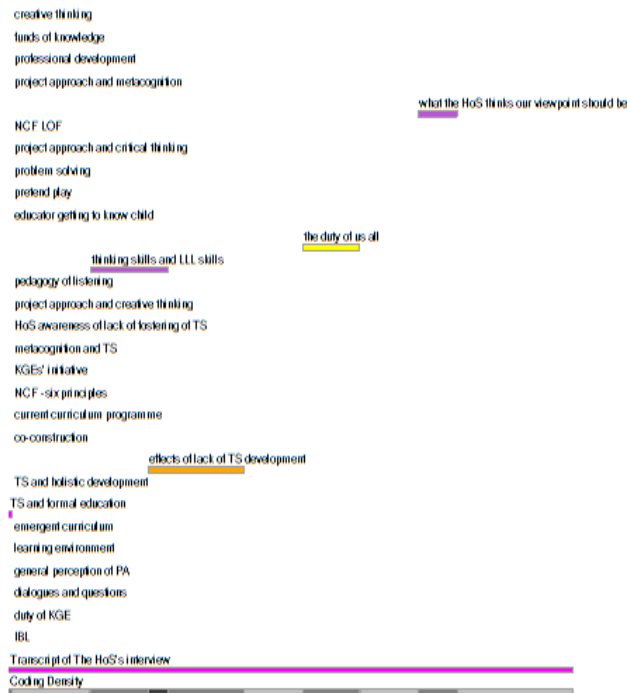
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- HoS: Yes, I think so. But then again, are the teachers able to apply it? I think that as for the other concept discussed earlier, training is needed for the teachers to learn these practices because they are used to having a syllabus and cover just that.
- Me: So, I gather that you do think that the cultivation of thinking skills can help the children to develop holistically.
- HoS: Definitely, in every aspect. Mentally, socially, in all aspects of life. For instance, even if he is talking to someone else, unconsciously, he would question, "What does this person mean by that?" "What's his intention?" Then, regarding this I thought this (referring to her notes), for example in Science, if he has hands-on activities you have the communicative and physical development, in health and physical activities, he has the gross motor development.
- Me: So, you are of the opinion that thinking skills bring together all aspects of development?
- HoS: I think that thinking skills join together all the other aspects of development because if you get them interested in a hands-on activity, automatically they use all aspects and so all aspects develop.
- Me: Current literature on early childhood education indicates that children who are empowered to develop their thinking skills in early childhood are more likely to succeed in their formal education and be able to transfer their skills from one situation to another. What do you think?
- HoS: Yes I totally agree and to be honest I researched on this as I was really interested in this aspect. They would be more capable to reason things out, find it easier to look for different solutions to solve their problems, brainstorming of ideas as well, have more possible ideas, there is also self-questioning, learn to compare and contrast ideas, more connection with their real life situation, better problem solvers in difficulties because they eventually will have more complex thoughts and think more about how one can find a solution ... that's what I perceive. Yes, this is really interesting and I liked it and it pushed me to read about it.... (laughing)

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- Me: So do you think that the development of thinking from a very early age will help towards the development of lifelong learning skills?
- HoS: And how. Yes, these are all the proof of this. Without knowing the child develops these skills that are so important in life. If the child is helped, he can develop these skills, but if you hinder him, if you suffocate his ideas, his development, he stops there. Look, at the children here (in the primary school), we have children here who look like babies. From where is it coming? If I keep the child very protected (the Maltese expression – 'go bozza' (in a bulb) if I do everything for him, instead of eliciting his potential and help him to develop it further, he is going to remain a baby, always depending on others.
- Me: To whom are you referring?
- HoS: To the teacher and educators in general. I think we need to work more because it is one of our limitations as adults that we are afraid that they are not capable of giving us the right answers. But they are, they need to be challenged.
- Me: So it's up to us.
- HoS: Us, entirely... we as educators, should believe that they are capable, we shouldn't think otherwise. If we give them the opportunity, they can do anything.
- Me: I really thank you for your time and for sharing your opinions. I shall ask you to hold another interview at the end of the study, May or June, to discuss with you the outcomes of the intervention. Thanks once again.
- HoS: You are welcome, and good luck.

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