Understanding Teacher Educators' Pedagogical and Technological Cultural Habitus (PATCH):

An Ethnographic Study in the Maldives

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Abstract

A substantial body of literature discusses the complexity of integrating technology in teachers' pedagogical practices (Mishra & Koehler, 2006). The literature over the last two decades, specifically suggests that teachers and teacher educators have shown limited pedagogical changes regardless of their frequent use of technologies in their teaching. However, the literature overlooks the impact teachers' culture may have when investigating their use of technologies in their practices. Bourdieu (1977) argues that people's practices are embodied within their cultures; hence they form habitus through their past and present experiences, both consciously and unconsciously. I argue that teachers' pedagogical and technological practices cannot be fully understood without considering the social and cultural norms of their specific cultures. My thesis aims to explain the impact of Maldivian teacher educators' culture and background on their pedagogical and technological practices. The main research question therefore is: How do teacher educators' pedagogical and technological practices form in the Maldives? Sub-questions arising from this are:

1) What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?
2) How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?
3) How do teacher educators form their pedagogical and technological practice?

My research used an ethnographic methodology, linked with Bourdieu's (1977) habitus as a lens for exploring teacher educators' practices in the Maldives. Data were gathered from eleven teacher educators who work in a Maldivian university context: using interviews, observations, focus groups and the hanging out approach. The findings were generated through grounded theory for capturing an in-depth understanding of how these teacher educators' pedagogical and technological practices were formed. Key findings demonstrated that teacher educators' pedagogical and technological practices were influenced by their own culture, early learning experiences in the Maldives, and their workplace (institutional context). The study revealed that these teacher educators selected and used specific digital technologies available in their workplace to deliver content. As a result, they formed their pedagogical (content-oriented) and technological (PowerPoint-assisted) cultural habitus that most often mirrored their existing pedagogical thinking.

This study has contributed to the research field by recognising the impact of these teacher educators' culture and background on their pedagogical and technological practices. It fills a critical gap (i.e. a connection between technology use, pedagogy, and culture) which has been neglected in the technology integration research and models. My research therefore, contributes a PATCH framework for understanding teacher educators' pedagogical and technological habitus and an additional layer into the TPACK framework to represent teacher's PATCH. Through applying Bourdieu's habitus lens, I have devised a conceptual framework for investigating pedagogical contexts, an outline of ethnographic process and an analysis model for understanding qualitative data using various technological tools.

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I dedicate this thesis to my beloved family

My son for his love and smiles that enlightened my everyday life

My husband for all his love, support and sacrifices throughout this long journey.

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List of Acronyms

Acronyms	Long form
ASSURE	Analyse, select, state, use, require, evaluate
CO	Classroom observation
FG	Focus group
FJ	Field journal
F-IN	Follow-up interview
GEM	Gateway to ELearning at MNU (Maldives National University)
IGCSE	International General Certificate of Secondary Education
IN	Initial interview
PATCH	Pedagogical and technological cultural habitus
PCK	Pedagogical content knowledge
PD	Professional development
PPT	PowerPoint
SAMR	Substitution, augmentation, modification, and redefinition
TAM	Technology adoption model
TPACK	Technological, pedagogical and content knowledge
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USA	United States of America

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Chapter One: Introduction to Research

The chapter is divided into four sections. The first part provides an overview of my personal experience leading to this research. The second section offers a general background about technology and pedagogy research by drawing on some critical arguments in this research field. The third section defines important terms. The last section outlines the structure of my thesis.

Personal Experience Leading to this Research

I grew up in the Maldives (a small country located in the South Asian Region). My formal schooling started when I was about seven years old. My learning experiences involved listening, rehearsing, memorising, note-taking, and more specifically, preparing for examinations.

After high school, I completed a first degree in teaching. My experiences of learning about teaching followed the same traditional teaching methods which I had been accustomed to during my schooling. I remember my lecturers explained the theoretical knowledge while I passively listened and took notes during my first degree classes.

After completing my first degree, I became a teacher in a small teacher education institution. Initially, I taught religious subjects related to Islam. My teaching was completely explanation oriented and highly teacher-centric. Over time, my teaching habits formed through everyday teaching routines which did not change much from what I observed in my own classrooms. Moreover, I expected my students to follow the same trend of rote learning.

However, within only a few years of starting my teaching career, my workplace transformed to a new setting with the advent of twenty-first century technologies in the early 2003s. Gradually, more facilities, tools, and mediums such as computers, laptops, Internet, Intranet, and virtual spaces became part of my workplace. In addition, workshops, both national and international, were offered to us to better inform us about new technological innovations. I was privileged to participate in many of these workshops due to my interest in technology use. Though I had no experience learning or teaching through computers, I was enthusiastic to learn more about the use of computers in my teaching.

Despite attending the workshops and seminars, many of my colleagues and I experienced difficulties in accommodating these technologies within our teaching. However, since

computers had become part of the workplace, everybody was expected to use them for teaching. Subsequently, some experimented with these technologies yet there were others who were reluctant to try them out. As mentioned earlier, my early classroom teaching was centred on explaining subject matter. Therefore, my initial purpose in using technologies was more concerned with adjusting those tools to my early habits of teaching. I used PowerPoint presentations for explaining the subject matter in the same way I would have taught without computers. This particular way of teaching created challenges in my own thinking and approaches to teaching. I observed that my students' attention decreased during my explanations. I found they were no longer interested in listening to detailed explanations. Oftentimes, I became confused and frustrated learning about how my teaching could be better with use of technologies. In addition, with the advent of the Internet, my students found the opportunity to learn what I would be explaining ahead of my lectures. The resources were freely available online apart from what they could read from books and handouts. They were more open to learn through new possibilities, rather than passively listen to my explanations.

The experiences of teaching with these technologies drove me to learn new ways to overcome those challenges. I then purposefully tried to understand how the use of technologies could help change my pedagogical practice. I had a great fascination with technologies and I loved exploring them in my teaching. Accordingly, I sought more opportunities to learn about their potential and benefits for my teaching. Subsequently, I tried various technologies such as PowerPoint, Moviemaker, YouTube, Web-designing, and discussion forums in my teaching. I experimented with these technologies to see how they worked for my student s' learning and how I benefited by using them. During this time, I truly experienced how difficult it was to change my role as an expert teacher to a facilitator of learning.

Regardless of some challenges at the early stage, I found the use of technologies benefited me far more than I expected. For example, I learned appropriateness of different technologies such as using Moviemaker, YouTube, and Web designing for assigning projects that were helpful for student learning outside the classroom, and using PowerPoint and discussion forums for my students' participation in the learning process during the contact hours of my teaching. Later in my teaching, my students were given more opportunities to explore knowledge, create new ideas, and share information with others through their use of technologies. Some examples of teaching strategies that I found useful were allowing students to produce video clips for learning (new concepts, theories); create their own PowerPoint presentations for various topics; design their online sites to share their experiences with other peers; and design electronic portfolios on

observations of peer teaching (a student teaching to his /her own class), micro teaching (teaching to a small group of students), practicums, and online discussions. Through these activities, I offered opportunities for my students to reflect, comment, discuss, and share their ideas with other students via online. Gradually, my students became more autonomous and collaborative in their learning. Using technologies, therefore, was not only beneficial for me but for my students' learning as well.

Having challenges in my own teaching with technologies, I realised the complexity of marrying technology to the way I taught. In particular, after I had overcome some challenges in terms of changing my pedagogies, I became enthusiastic in promoting technologies at my workplace. I, therefore, voluntarily ran workshops for my colleagues and student teachers. My interest in using technologies and my own experience of understanding pedagogies with technologies led me to seek more knowledge about others' experiences and the pedagogical change they bring into their practices. More specifically, I wondered how technology-integrated pedagogy can be understood in relation to people's early established practices when they accommodate digital technologies in teaching. My main research question therefore is: *How do teacher educators' pedagogical and technological practices form in the Maldives?* Sub-questions arising from this are:

1) What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?
2) How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?
3) How do teacher educators form their pedagogical and technological practice?

One of the seminal pieces of literature on technology use in teaching was developed by Mishra and Koehler (2006). They argue that technology brings a new dilemma to teachers' pedagogical practices as it is expected to marry with teaching strategies and the content to be taught. They further explain that when teachers first start using technologies, it always creates challenges in their practices because teachers find it difficult to adjust new tools to their previously established practices. These researchers draw attention to the complexity of understanding the connection between the three domains, technology (technological tools), pedagogy (teaching strategies - how to teach and how to assess learning) and the content (the knowledge to be taught - what to teach). However, these researchers offer limited knowledge about how people's backgrounds can become part of what they do with technologies in their teaching. The main aim of my research, therefore, is to investigate how technological (technology use) and pedagogical

(teaching) practices are formed among teacher educators, with a specific focus on the Maldivian context.

Background of Pedagogical and Technological Research

A number of researchers discuss the change that technology brings to learning. Bell (2001) argues that technologies are a means for learning, thinking, communicating, creating, representing and research. Boshuizen and Wopereis (2003) describe several notions of learning that teachers are required to ponder in technology-integrated pedagogies. They are (1) "learning to know" (helping learners to learn by themselves), (2) "learning to do" (learning to use emerging tools effectively for their learning), (3) "learning to live with each other and with others" (learning through collaborative and asynchronous communities), and (4) "learning to be" (developing self-fulfilment strategies within the community) (pp. 149-153). Yelland (2005) argues that changes of learning occur with students accessing a multiplicity of information sources and communication spaces that allow them to learn, discuss, and communicate within various global communities from childhood. With these new possibilities students develop their own learning skills and strategies that include creativity, collaboration, and innovation, perhaps beyond the school curriculum (Lim & Oakley, 2013; Yelland, 2005). These researchers suggest that technologies provide opportunities to reshape learners' learning through different means and modalities.

Many researchers have investigated the nature of learning through a variety of technologies and their implementation into pedagogical practices. For example, some studies explored the use of Web 2.0 technologies, arguing that these can support student learning in various forms such as learning content, metacognitive activity, and self-regulation (Ching & Hsu, 2011). The use of technologies also offers opportunities for students to participate in a collaborative and interactive culture of learning (Hsu, Ching, & Grabowski, 2009), and also helps them develop critical and creative thinking (Niess, 1999).

Furthermore, some researchers examined specific activities that could take place in the knowledge sharing spaces and communities. For example, microblogging such as Twitter can strengthen students' virtual learning experience (Hsu & Ching, 2011), for effective student collaboration (Grosseck & Holotescu, 2008), and strengthen reflective thinking (Wright, 2010). Lim and Oakley (2013) argue that technologies enable students to enrich their understanding and develop their thinking through a multitude of sources and resources of technologies such as images, videos, podcasts, e-Portfolios, and blogs.

According to these views, technologies can replace the traditional spaces of teaching and learning, and eventually bring a change to teachers' pedagogical practices including their teaching roles and strategies. Though these views can usefully apply to any pedagogical context, it is arguable whether such tools can bring a change where individuals understand pedagogy differently. Moreover, if individuals see pedagogy as traditional teaching, would these tools alter their practices directly if they use them or allow their students to use them? How would these tools then help change the pedagogy?

A substantial body of research raises arguments concerning with the lack of pedagogical change that technology brings into teachers' classroom practices, as seen in Table 1.1.

Table 1. 1. Does technology bring a change to pedagogical practice?

Sources	Context	Arguments
(Adams, 2011)	UK	Regardless of extensive technology use for student learning, it is yet to be re-oriented to teacher activities
(Cuban, Kirkpatrick, & Peck, 2001)	USA	Availability of various technologies enables teachers to use them, but does not change the pedagogy
(Ertmer, 2005)	USA	Teachers' pedagogical beliefs about constructivist learning are usually not practised in their day-to-day activities.
(Judson, 2006)	USA	Teachers' beliefs about constructivist approaches of teaching with technologies were not practised in the actual classroom teaching.
(Kurt, 2013)	Turkey	Teachers' use of technology relied on marrying their traditional teacher directed methods.
(Liu, 2011)	Taiwan	Regardless of teacher beliefs about learner centred-constructivist teaching, technology integration was not implemented with constructivist pedagogy.
(Livingstone, 2012)	UK	Technology use is much concentrated on traditional outcome orientation, yet only a moderate change occurs in basic literacies.
(Pierson, 2001)	USA	Teachers' lack understanding of thoughtful technology-integrated pedagogy in their practices.
(Sipilä, 2010)	Finland	Teachers' attitudes toward using laptops were positive but no change in the pedagogy

Examining these studies, I reflected on the reason for not seeing a change regardless of technology affordances available in these pedagogical contexts. It made me wonder whether there is more to understand about the teachers who use these technologies, rather than concentrating on the outcomes of such use. The literature in Table 1.1 illustrates that these researchers were mainly focused on whether technology is used appropriately or not, rather than understanding what makes teachers form certain habits and practices and the difficulty of changing their pedagogical practice.

A number of researchers attempted to explore the factors that may perhaps explain what is behind a paucity of pedagogical change regardless of technology use in teachers' practices, as shown in Table 1.2.

Table 1. 2. Teachers' culture is not given enough emphasis

Source	Key findings
(Aldunate & Nussbaum, 2013)	Early adopters of technology often commit a significant amount of their time to experimenting with technologies in their teaching.
(Chapman & Gaytan, 2009)	Teacher educators who were early adopters merely used Word documents, emails, and computers. However, they never employed web-based video, audio, or online chats.
(Falloon, 2011)	He discussed Helen's case, arguing that her teaching was traditional and teacher-centric. Further, he indicated that she later gained confidence in integrating various technologies in student-led science inquiries.
(Gülbahar, 2008)	Due to instructors' poor competencies, they were not able to model student teachers' use of technologies.
(Ihmeideh, 2009)	Teachers' lack of technology use competencies, skills, time, and funds were barriers identified in teachers' practices.
(Matthew, Stephens, Callaway, Letendre, & Kimbell-Lopez, 2002)	At the end of a one-on-one coaching project, teacher educators became more confident in using technologies. The study suggests that teacher educators' use of technology was very limited at the beginning and they improved their use through this project.

Reflecting on these studies, it seemed to me that these researchers overemphasised understanding teachers' competencies in using technologies, rather than exploring the associated influence of their backgrounds when understanding why their practices may have remained as highly teacher-centric and/or had not shifted. These researchers appeared to be techno-centric when understanding teachers' use of technologies. Perhaps more explanations could be provided if they attempted to understand teachers' backgrounds and cultures.

Due to many researchers' technicist thinking, none of the studies above have attempted an understanding of the roots of teachers' underlying benefits and practices that may be associated with their own culture. My research argues that technology integration cannot be fully understood by merely concentrating on technology, rather the focus ought to be teachers and the effect of their social, cultural and pedagogical contexts. This argument is very relevant because of the close connection between teachers' culture and their conceptualised pedagogy. Examples include influence of culture (Gay, 2010b; Jenks, 1993; Richardson, 2001); influence of own experience of learning (Belland, 2009; Cheng, Cheng, & Tang, 2010; Kukari, 2004; Pajares, 1992; Wong, 2005); and the impact of the

practising context on teachers' conceptualised pedagogies (Barton & Berchini, 2013; Bishop, 2003; Li, 2013; Williams, 2006).

The studies reviewed here suggest a critical gap in understanding the connection between culture and the way teachers integrate technologies into their pedagogies. Thus, understanding teachers' culture is pertinent to articulating technology-integrated pedagogies. My focus, therefore, is exploring teacher educators' specific pedagogical and technological practices and how they are shaped through their culture and background. More specifically, I seek to understand how their formed practice was influenced by their own social cultural norms and their workplace institutional context in the Maldives.

Definition of Key Terms

In order to provide clarity for understanding this thesis, terminologies that are frequently used are explained below.

Pedagogical practice – The term pedagogy is derived from a Greek word 'pedagogue', which was originally generated from 'pedagogus', used to refer to a trainer or a teacher of boys (Cannon, 2001; Tinning, 2008). Some researchers define pedagogy using its literal meanings, such as "the art and science of teaching children" (Knowles, 1970, p. 40), the "science of teaching" (Alexander, 2004, p. 8) or the "theory of teaching" (Webb, 2013, p. 1). These literal meanings suggest that pedagogy is the 'science' about the 'conception of teaching or pedagogy'. This means that teaching and pedagogy can be used synonymously. Some researchers define pedagogical practice depending on how teachers exhibit their teaching roles. According to Apple (2004), in traditional teaching in the USA schools, teachers were considered as experts of knowledge and students were novices. In such practices, teachers act more like 'sages on the stage' as they know everything about the knowledge to be delivered. In this sense, the pedagogical practice is involved in the delivery of information, rather than giving opportunities for students to create knowledge (Mayer, 2002). Pedagogical practice with this meaning is the teacher being expert (what to teach). In this definition the learner is given less emphasis.

However, many researchers argue that a pedagogical practice ought to be learner-centred and knowledge-construction focused, rather than merely enabling learners to receive knowledge (Fullan & Hargreaves, 1992; Hamilton & McWilliam, 2001). Felman (1987) asserts that "learning has no term" since at one moment student can become both the learner and the teacher and vice versa (p. 88). She further argues that pedagogical practice is understood similarly to the reflection of a mirror. Teachers may represent how they want their students to learn by positioning themselves as learners. This means that

teachers are required to put themselves in the learners' positions in order to conceptualise how to teach them. Felman's view is also about making connections between learning and teaching for enabling learner-centred teaching. The literature in this regard differentiates between two opposite roles: expert or facilitator. The meaning of the teacher role in pedagogical practice in my research can be understood within the two paradigms of experts and facilitators, as outlined in Table 1.3.

Table 1. 3. Experts versus facilitators

Teachers as experts	Teachers as facilitators
- explain ready-made knowledge	- direct students' learning
- confirm the right answers	- do not expect a right answer for every question
- explain content/materials for learning	- facilitate content/materials for learning
- expect students to know the right answers	- Expect students to learn reasons for right or wrong answers
- provide fewer opportunities for students' interaction	- focus on students' interaction-oriented activities
- expect students to be knowledge receivers	- expect students to be knowledge producers
- promote students' acceptance of knowledge	- promote students' critical thinking about knowledge
- promote passive and dependent learning	- promote active and independent learning
- help students memorise and rehearse knowledge	- help students think about and reflect on knowledge
- spoon-feed learning	- direct learning
- require less thinking and more storing of knowledge by their students	- require students to do more thinking and less storing of knowledge
- allow students to learn through teachers' use of technologies	- allow students to use technologies to learn with and through
- technologies are mostly used by teachers	- technologies are mostly used by students
- do not allow students to work collaboratively or exchange ideas through technologies	- allow students' collaboration and exchange of ideas through various technologies

Though teachers learn theories of learning and approaches to teaching, some teachers only conceptualise their practices later when they have their own classrooms. This is because teachers often learn their pedagogical practice through their own experience of teaching. Dewey (1904) argues that teachers' habits of teaching become fixed in their practices as they continue teaching. Thus, many teachers may not see the relevance to their practices of what is learnt about teaching (theories); rather they replicate ways they

were taught. He further claims that teachers often rely on what works and simultaneously what is "picked up through blind experimentation" (Dewey, 1904, p. 9). Becker and Riel (1999) assert that teaching is shaped through teachers' routines and on-going experiences. Literature in this regard suggests that pedagogical practice can be shaped through various aspects associated with teachers' background and context of practice. Teacher educators' pedagogical practice in my research is not about understanding their teacher education pedagogies, rather, I concentrate on understanding why they teach as they do with the technologies they use. This means that whatever strategies they use whether as experts or facilitators both inside and outside the classroom would be considered as being their pedagogical practices.

Technology-integrated pedagogical practice – The term 'technology' includes available and relevant technology infrastructure in a context of educational practices. This includes the characteristics of available technology resources and the quality and quantity of the provided facilities in an organisation (Arpacı, Yardımcı, Özkan, & Türetken, 2012). It covers a range of facilities related to fast Internet connection, sufficient up-to-data computers, and good computer networks (Raouf, Naser, & Jassim, 2012). It also includes equipment as well as the processes involved in technology use in a context of practice (Kinaanath, 2013). Technology in this research refers to physical equipment (computers, interactive whiteboards, mobiles, iPads, iPhone and etc.), institutional infrastructure resources (the Internet and intranetworking spaces such as student and staff network), virtual resources (such as Moodle, online discussion forums), web resources (helpful websites) and free available tools (such as Dropbox), programmes and applications (such as proprietary software like Microsoft Office applications), and social networking tools such as Facebook, blogs, or Twitter. In the context of this research, information and communication technology (ICT) is used interchangeably in participants' conversations to cover all of these possibilities.

Technology-integrated pedagogical practice is usually defined as creating student learning through new possibilities such as mobile technologies, and virtual spaces in ways that support learner interaction and collaboration (Livingstone, 2012; Pischetola, 2011). Belland (2009) defines using technology for a "sustainable and persistent change" (p.354) within the school system for helping students to construct knowledge. Some examples of technology-integrated practices were provided by some researchers:

> Technology use is specific to the use of computer-based technologies to deliver instruction. For example, a teacher may use graphical software on a computer connected to a liquid-crystal display projector to demonstrate the principles of geometry to the class. In other cases, teachers require students to use technology to develop products or to facilitate learning. A teacher might ask students to use

> Microsoft PowerPoint to create a presentation, or to use the Internet to conduct research. In still other cases, teacher technology use includes e-mailing, preparing lessons, and maintaining records as well as personal use. (Russell, Bebell, O'Dwyer, & O'Connor, 2003, p. 300)

For this research, technology-integrated pedagogical practice means use of technologies (any relevant tools mentioned in the definition of technology) by teacher educators either inside or outside classrooms.

Habitus – The term, originally derived from Bourdieu (1977), refers to cultural dispositions that people internalise both consciously and unconsciously. These dispositions also inform people how to do things in a certain way. Bourdieu defines habitus as a system of structure which is "lasting, [and] transposable dispositions" (p.72) that are generated from both past and present experiences of people, and accordingly shape their actions. I adopted this concept of habitus for understanding teacher educators' practices in relation to their cultural backgrounds. The concept, therefore, covers teacher educators' early experiences, cultural practices, and context influences, and workplace context within their existing practices.

Teacher educators – Participants of this study are lecturers who teach in a teacher education institution in the Maldives. However, their pedagogical practice is referred to as teachers' regular teaching, rather than teacher education pedagogies. Though the term teacher educator is used throughout this thesis, it does not mean that their pedagogy is understood through the lens of teacher education pedagogies. The term is thus only refers to the name used in the context of their practices since they are teaching in a teacher education context not in a school context.

Students – The term refers to learners in school contexts or students in tertiary education except student teachers.

Student teachers – This term refer to students who study about teaching. Thus, pre-service teachers, prospective teachers, and student teachers are phrases used synonymously in many studies reviewed in the literature.

Teachers – This term refers specifically to teachers in school contexts. Teachers are distinguished from teacher educators or academics who teach at tertiary level.

Structure of this Thesis

This thesis comprises eight chapters. Chapter One outlines important aspects associated with my educational background, research background and definitions. Chapter Two provides background to the research context, including geographical, cultural,

educational, pedagogical practices in the Maldives. It also sheds light on the development of technology infrastructure in the Maldives. Chapter Three examines literature which assists understanding the field of this study. This chapter concludes by outlining some gaps that need to be addressed through this research.

Chapter Four provides a framework of philosophical and methodology considerations that underpin the ethnographic methodology. The methodological framework identifies characteristics of my research linking it with Bourdieu's notion of habitus and insider position for seeking in-depth understanding of the research area.

Chapter Five offers details about the process of data collection by explaining the phases of ethnographic process. The chapter also discloses some emerging experiences relating to an insider researcher position and ethical considerations. Finally, the chapter evaluates the research process with regard to transparency, reflexivity and triangulation.

Chapter Six reveals the aspects which influenced the shaping of pedagogical and technological cultural habitus of teacher educators. The chapter reports on the influence of social and cultural learning norms. It also identifies the influence of the institutional context. Finally, it examines teacher educators' shaped pedagogical and technological habitus, by presenting examples of specific habitus that teacher educators formed: cultural, pedagogical, and technological.

Chapter Seven discusses the major findings of this thesis by dividing it into three main sections. In each section a research question is answered by providing examples from the findings. Chapter Eight provides a summary of the entire project, its limitations and major contributions. The chapter also outlines some implications and recommendations for further research, enclosing with a final reflection on my thesis.

Chapter summary

This chapter is an overview of my personal interests and the professional experiences that led to this research. It also broadly examines the background literature and raises some arguments and concerns pertaining to the research area. The chapter then defines important terms that are frequently used in this thesis. It concludes with an account of the structure of the thesis by briefly describing contents of each chapter. The next chapter outlines the background of this research context (Maldives).

Chapter Two: Research Context

Since my research is aimed at understanding teacher educators' use of technologies and their formed pedagogical practices, it is pertinent to provide an overview of the Maldivian cultural context. The chapter, therefore, sheds light on the Maldives and its culture, education including the most common pedagogical practices, and technological infrastructure.

Overview of the Maldives

The Maldives is a small country, which consists of a chain of 1196 coral islands distributed vertically across a space of more than 800 kilometres from the north to south in the South Asian Region (see Figure 2.1). While the Maldives is known as one of the most dispersed countries in terms of its geographic nature, it is also the smallest Asian country in terms of both population and area. Out of 1196 islands, only 200 are inhabited, 89 are adapted as tourist resorts, and the rest are uninhabited (Zuhyle, 2012).

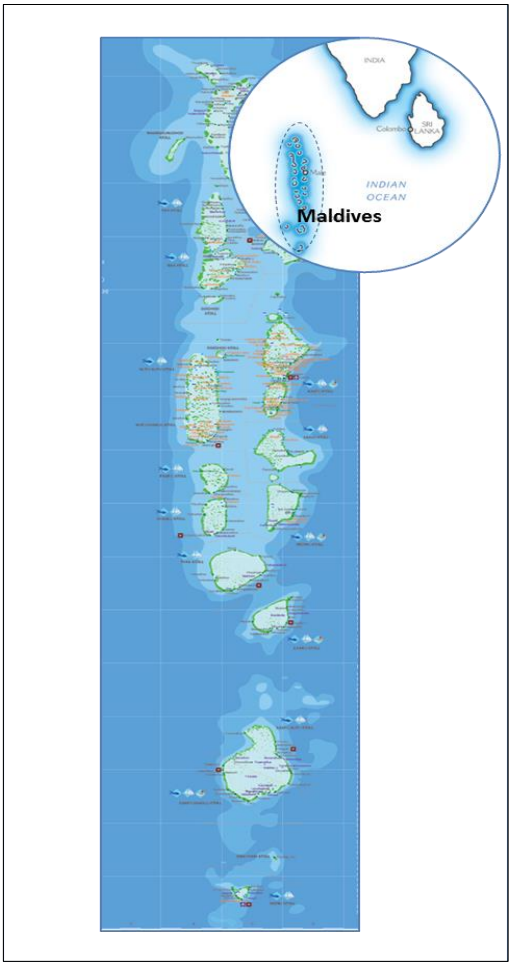


***Figure 2. 1*. Map of the Maldives**
(Sources: http://www.maldivestourism.net and http://www.clubmarine.com)

The islands of the Maldives are surrounded by reefs and shallow lagoons. These are geographically divided into twenty six atolls, but are regrouped into twenty atolls for administrative purposes (Athif & Pimenidis, 2009). Because of the coral islands and reefs, Maldives is commonly described as the 'pearl of the Indian Ocean', a 'tourist paradise' and 'an enchanting retreat' (Srivastava, 2011). However, the Maldives is also considered one of the most vulnerable countries in terms of climate change and the small sizes of its coral islands (Jaleel, 2013; van Alphen, van Sark, & Hekkert, 2007).

The population of the Maldives is 393,988 (2013 Est.) (Ali, Cullen, & Toland, 2013), and it is unevenly distributed across 200 islands. The majority of these islands have a population below 1000 and only four islands have over 5000 (Athif & Pimenidis, 2009). The capital city of Maldives is Male'. One third of the population lives here, which is approximately 37 percent of the population. Maldives was a British protectorate until its independence on 26 July 1965 (Hoque, Samad, Siraj, & Ziyadh, 2012). Despite the British protectorate over the Maldives, its people have their own cultural and religious background.

Cultural Background

The two factors that unify the people of Maldives as one culture are religion and language (Bray & Adam, 2001). The Maldivians were practising Hinduism until AD 1153, until an Arab scholar travelled to the Maldives and converted the king to Islam. Consequently, Islam has been practised in the Maldives since the middle of the twelfth century (Faiz, 2007). Since Islam is the only religion practised by Maldivians, its religious principles and practices have been deeply embedded in Maldivian traditions over centuries. Therefore, Islam is followed in all aspects of Maldivians' lives including education, social lives, and politics.

Maldives has its own unique language, *Dhivehi*. Though it is traced as early Sanskrit, and similar to Singhalese, it also has common vocabulary from Urdu, Arabic and English. Despite the similarities to other languages, Dhivehi is unique with its grammar and usage. It has its unique scripts, *Thaana*, which were introduced in the sixteenth century (Mariya, 2012). The language is written from right to left, and has 24 letters. Though Dhivehi is the official language for Maldivians, English is spoken by the majority of government officials (Ali et al., 2013). Apart from language the Islamic identity is broadly emphasised in the education system of the Maldives.

History of Education in the Maldives

According to Faiz (2007), with the arrival of Islam to Maldives, Maldivians were instructed through the traditional Islamic education system that accordingly shaped the educational practice embedded in the Maldivian culture. This section explains important aspects of education in the Maldives: early education, current school system, and school curriculum.

Early Education in the Maldives

Latheef and Gupta (2007) claim that the education system of the Maldives is influenced by three streams: "informal training, which children receive from the family and island community; Islamic religious instruction, provided through private tutoring and individualised teaching; and Western-style schooling which emerged in 1960 with the introduction of English-medium schools" (p. 116). Although, their argument was not completely related to pedagogical practices in the Maldivian education system, the first two streams - informal training and Islamic religious instructions - appeared to be inherently affecting Maldivian pedagogical practices. Yasir (2004) and Duch (2005) describe both of these streams as foundation of Maldivian children's early education which normally starts from *Edhuruge* (a home-based tutoring).

This *Edhuruge* system is part of the traditional schooling in the Maldives, which highly contributed to Maldivian children's early education (Duch, 2005). *Edhuruge* is:

> [A] home-based educational service provided by respected members in the community. …the immediate function of the Edhuruge is to help children read the *Holy Quran* properly and to develop a love for the *Quran* and the Islamic religion. …the weaknesses of the edhuruge are; too much emphasis on rote learning; low qualification of teacher…. [However,] the edhruge still survives and provides the first formal learning for more than half of the population in the country. (UNESCO, 2010/2011, p. 13)

In this home-based private tutoring:

> [An] Edhurugdhaitha [local name for female instructor at Edhuruge], usually an elderly lady, teaches children to read Arabic and the rituals of praying. The Edhurudhaitha also conducts lessons in Dhivehi literacy and numeracy. Regardless of a formal education, parents send their children to an Edhuruge; it is a parental duty to inculcate proper beliefs of Islam in their children. (Yasir, 2004, p. 128)

These views denote the importance of this trend of education in terms of inculcating Islamic beliefs and moral values into Maldivian children. This trend also enables Maldivian children to learn recitation of the *Holy Quran*, inculcate Islamic beliefs, and

practise Islam in their everyday routines. In addition, these views also drew attention to the pedagogical trend followed in this *edhuruge* system, which is rote learning.

Maldivian children's early education starts through informal education. Yasir (2004) and Duch (2005) record the age of two as when Maldivian children start their education. Their basic education is focused on learning to read and write "three alphabets (Arabic, Divehi and English)" (Duch, 2005, p. 183). Nevertheless, children aged three to five years start their pre-schooling which lasts for approximately three years. The education of children in this level mostly concentrates on playing and early literacy of three languages (English, Arabic, local language). These three languages play an important role in the education system of schooling in the Maldives. For example, children are "taught to read Arabic, [because it is] a necessity to practise Islam (Yasir, 2004, p. 128), particularly, "to learn to recite the *Holy Quran*" (Mariya, 2012, p. 8).

In this particular learning and teaching trend, learning to read Arabic script is very different from learning the local language and English alphabets. The learning of Arabic scripts is related to the learning of recitation of the *Holy Qur'an*. However, the comprehension of Arabic language was not given any emphasis. Hence, children were just taught to read Arabic scripts rather than understand them. The other two languages are taught for different purposes, English is taught because both the curriculum and instructions in the schools are in English medium except for two subjects (Islam and local language, Dhivehi). The local language is taught for the purpose of developing national identity which associates with teaching of Islamic principles and Maldivian local language and its heritage. The history of education in the Maldives is illustrated in the following timeline.

Table 2. 1. History of education in the Maldives

Years	Description	Source
Before-1927	- Traditional education places known as *Edhuruge*, *Makthabu* or *Madhrasa.* - *Edhuruge* was the neighbouring home children attended for learning to read and write local language, plus learning the recitation of the *Qur'an*. - The *Makthabu* and *Madhrasa* were generally operated in a formal manner, where literacy and numeracy were taught.	(UNESCO, 2006/2007)
1927-1940	- Government schools established, curriculum was language, religious instructions, arithmetic - The first constitution of administrating basic schooling started for all Maldivians	UNESCO, 2006/2007)

Years	Description	Source
1940-1960	- A more formal education system established with an underlying assumption of education as a national requirement	(Faiz, 2007; UNESCO, 2006/2007)
	- A primary school was established in each inhabited island	
1960-1978	- English medium schooling started (instructions and curriculum provided in English)	
	- Established broader understanding of management and administration of all schools reflecting the need of national development	
1978-1980	- Maldives gradually established education system followed by the University of London General Certificate of Secondary Education Ordinary Level (GCSE O/L syllabus)	(UNESCO, 2010/2011)
	- Education in all schools became English medium except two subjects (local language and Islam (religious instruction)	
	- The English medium of schooling opened the doors for Maldivian overseas education.	
	- Unified national education system and equitable distribution of schools, that include creation of a unified curriculum, teaching training, upgrading school system	(Faiz, 2007)
	- Witnessed the establishment of specialised agencies for teacher training, curriculum development, and non-formal education	(UNESCO, 2006/2007) (UNESCO, 2010/2011)
	- Private schools were established owned by private enterprises	
1980-1990	- A number of government schools built in atolls and in the capital city, that enabled to reach student enrolment of 44.4%	(The Maldives National University, 2015)
	- National curriculum development started	
1990-2000	- A number of higher education institutes were established including Maldives College of Higher Education (MCHE)	(Faiz, 2007)
	- Teacher education was formally established with standardised programmes affiliated with overseas programmes.	(Noordeen, 2009)
	- Vocational training institution introduced	
2000-2013	- National curriculum reformation started towards a new level with key competencies and key areas in each level of schooling	(Ministry of Education, Maldives, 2015)
	- First university inaugurated	(The Maldives National University, 2015)
	- A number of private colleges started	
	- Research conferences and academic journal publications initiated	

The timeline (Table 2.1) illustrates the history of traditional education system rooted in *Edhuruge* practices and the changes in the new schooling system since the 1960s. This change particularly includes the structural changes to the schooling system when it initiated a British schooling curriculum and English as the medium of instruction. According to Yasir (2004), the education system of the Maldives has seen remarkable changes after the introduction of English medium schooling. However, the *Edhuruge* system continued in the early years of children's education outside the formal schooling system (UNESCO, 2010/2011).

School System in the Maldives

Education in the Maldives focuses on developing knowledge, skills, and attitudes towards building Islamic and national identity in Maldivian children (UNESCO, 2010/2011) Overall, there are 203 government schools (primary), 179 (lower secondary), and 37 (higher secondary) (Guerrero, Gaye, Hentschel, & Aturupane, 2012). The education system is divided into four main levels, pre-primary, primary, lower secondary, and higher secondary. The school system of Maldives, except one school,[1] uses English medium of instructions except in two subjects (Islam and Dhivehi). The structure of schooling is outlined in Figure 2.1.

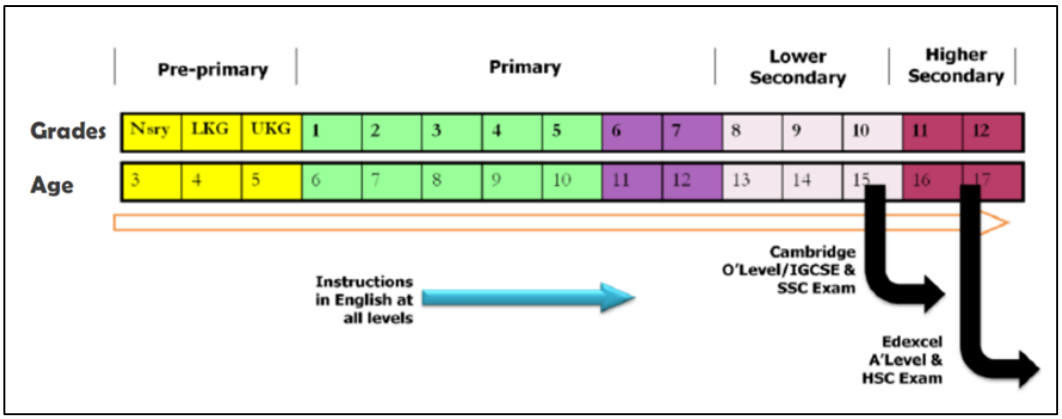


***Figure 2. 2*. Structure of school system in the Maldives,**

(Source: Ministry of Education, Maldives 2010)

Maldivian children start their schooling at the age of three, and have an optional two years at pre-school, Lower-Kindergarten (LKG) and Upper-Kindergarten (UKG). When children are six years old, education is compulsory for all Maldivian children. Primary schooling lasts for seven years in which they complete grades one to seven. By the completion of grade seven, they enter secondary school education which is divided into

[1] One school uses Arabic medium in its instruction, curriculum, and textbooks

two levels, lower secondary, lasting three years (grades eight to ten) and the higher secondary lasting two years (grades eleven and twelve).

School Curriculum

By the late 2000s, the Ministry of Education started developing a new curriculum framework to encompass a number of key competencies and key learning areas. The National Curriculum, therefore, identifies specific key competencies including practising Islam, understanding and managing self; thinking critically and creatively; relating to people; making meaning; living a healthy life; learning for sustainable development ; and using technology and the media. These competencies appear to resonate with international competencies such as outlined in the *New Zealand Curriculum* (Ministry of Education, 2007).

The curriculum of all primary years follows the national curriculum. Textbooks designed by locals are subject-specific and content-focused. These textbooks are written in English except the topics of Islam and Dhivehi (local language). However, the curriculum of the both lower and higher secondary level is designed in relation to the IGCSE syllabus (Bray & Adam, 2001; Mohamed, 2006). The lower secondary schooling concentrates on meeting the standards of the International General Certificate of Secondary Education (IGCSE), and the Cambridge General Certificate of Education Ordinary level (GCE O'level). Higher secondary students sit the Advance level (London Edexcel, A' level) (Mariya, 2012). Both these examinations are administrated by the Cambridge International examination, London (Bray & Adam, 2001; Mohamed, 2006). Apart from this, at the end of each secondary level, students are required to undertake the national examinations related to the local language and Islam.

In secondary schooling, most subjects are taught using overseas imported textbooks. These are the major source of information for teachers' teaching and students' learning, apart from what is available online. As a consequence, in order to cover the syllabus of these textbooks, teachers' pedagogical practice is closely oriented to knowledge transmission. Students' learning is also concentrated on learning the content and answering the questions from past papers of the IGCSE examinations. Perhaps this could be one reason that the pedagogies in the Maldivian classroom have continued to replicate the notion of rote-learning and content-oriented practice over decades. Also, because the content relates to other countries' cultural moves, the content may be an abstraction for learners. This means that teachers' pedagogical practice perhaps leads to a content delivery-focused practice in terms of helping their students perform well in the international examinations.

Nature of Students

Some literature suggests that Maldivian students' learning expectations and preferences may influence teachers' pedagogical practices. Liyanage (2012) argues that Maldivian students do not prefer interactive pedagogy, nor do their teachers believe in its efficacy in pedagogical practice. Saeed and Moreira (2010) highlight the differences they notice in Maldivian students. They claim that Maldivian students expect their instructors to take careful consideration such as teaching the content knowledge and examining their rehearsing of content through a degree of personal care. Mohamed (2006) confirms this through her observations and clarification of a classroom teaching situation:

> Discussing the lesson afterwards with the teacher, he told me how, through using the same lessons repeatedly, teaching had become almost automated for him; how he did not believe in applying 'Western' ideas about education into his teaching because he felt that they would be unworkable in his classroom. (Mohamed, 2006, p. 3)

This classroom observation highlights pedagogical practices as being a technical practice in which teachers repeatedly do the same thing without much reflection on how they teach, and accordingly students appeared to be automated to receive the ready-made knowledge from teachers. Confirming the nature of students' learning, Shareef (2008) highlights some difficulties that Maldivian teachers experience when implementing Western teaching strategies. Western strategies of teaching are considered as allowing student more activity-oriented learning environments. She claims that participants in her study were not confident in implementing student-centred learning practices though professional development programmes were organised for that purpose. She notes that participants have acknowledged the lack of exposure to active learning environments and the difficulty of implementing those ideas when practising in Maldivian contexts.

Although these studies did not explicate much about the barriers or challenges when implementing the interactive pedagogies, they voice critical differences that could be rooted in the Maldivian culture, and may exert pressure on teachers' pedagogical practices. It is also noticeable that few of these studies attempted to understand reasons associated with particular pedagogical dispositions in the Maldives. Thus, we may speculate whether formed pedagogical practices in the Maldives are influenced by specific cultural practices of learning.

Pedagogical Practice in the Maldivian Classrooms

Previous literature pertaining to Maldivian classrooms' teaching demonstrate a prevalence of a rote learning pedagogy which perhaps is influenced by the early informal

learning, and religious instructions as noted by Latheef and Gupta (2007). For example, many studies in Maldivian classroom contexts argue that rote learning is evident in subjects such as Economics (Nazeer, 2006), Environmental Studies (Shareef, 2010), English (Mariya, 2012; Mohamed, 2006) and general pedagogy (Srivastava, 2011). Nazeer (2006) and Mariya (2012) claim that the Maldives has a long history of rote learning and memorisation as a pedagogical tradition. Thus, teachers' pedagogical practices commonly concentrate on content and examinations. Nazeer (2006) further argues that even the Ministry of Education in the Maldives encourages teachers to pursue examination-oriented teaching. This too influences teachers' views of good pedagogy. The goal appears to be aiming for students to achieve high scores in the final examination. Supporting this argument, Nazeer (2006) states:

> Many schools in the Maldives still follow these traditional teacher-centred methods ... The skills and knowledge are transmitted to students through formal, didactic, expository and teacher-centred approaches of lectures and direct explanations. The best learner is the one who can reproduce good results in the exam by memorising the content that has been taught. (Nazeer, 2006, p. 24)

Nazeer's (2006) argument was clearly supported by some of his teacher participants' enunciation about the pressures that are put on their shoulders in order to reproduce good results at the end of year examinations. Srivastava (2011) confirms the notion of pedagogy through the observation of classrooms in both the capital city, Male' and in some atoll islands in the Maldives. She concluded that teachers' pedagogical practice in Maldivian classrooms demonstrates teacher-centric and content-focused approaches with a limited exposure to student interaction and engagement. In addition, Srivastava (2011) concedes that pedagogies implemented by teachers ensured students' obedience to teachers, and attentiveness to their explanations. She further explained that teachers put great effort into minimising unnecessary disruptions during explanation, and ensuring students' rehearsing of knowledge being delivered. This finding indicates that the classroom practice in the Maldives does not focus on student understanding of knowledge, rather the concentration is the reproduction of knowledge being delivered. Shareef (2010) supports the same argument through his observation of Environmental Studies teaching in three schools in the Maldives. His findings indicated that the pedagogy implemented was "subject centred direct instruction which focused on transmission of knowledge" (Shareef, 2010, pp. 69-70). Concerning the same argument, Mohamed (2006) says that the pedagogical practice of teachers has not seen much change since her school years. Her observation of classroom teaching during her doctoral study noted:

> The realisation about the unchanging nature of the teaching in Maldivian schools hit me as I was sitting at the back of a classroom observing a teacher who had, several years previously, also taught me. I watched as he taught the same lesson from the same textbook in the same way that I remembered him doing when I was a student in his class. (Mohamed, 2006, p. 3)

Her observation of limited change from her school time to her doctoral study period was noteworthy to highlight the deep rootedness of this traditional pedagogy in the education system of the Maldives. The findings above demonstrate a technical reproduction-knowledge is fixed - as in religious texts which could be a disposition perhaps difficult to shift when it relates to early learning. In addition, Mariya (2012) observed teachers' pedagogical practices and students' learning environments in formal classrooms and other informal learning environments, such as private tuition. Her findings portrayed that both teachers' and students' attitudes were inherently associated with content and examination-oriented thinking. Explaining this notion of practice embedded in the school system, Mohamed (2006) argued:

> At secondary level, students' work during the term counts towards their continuous assessment score and at the end of each term, school examinations (prepared and marked within each school) are held. A proportion of the examination and continuous assessment marks of each term count towards the student's final grade at the end of each year. A student would need to pass in all compulsory subjects and achieve more than 40% on a combined average of all his subjects to be promoted to the next grade. (Mohamed, 2006, p. 11)

This finding demonstrates concentration on summative assessment orientation which indicates a paucity of reflection and use of feedback/feed-forward pedagogy in classroom practices in the Maldives. In a more recent study, Kinaanath (2013) asserts that traditional pedagogy is not only established in the school systems but also in the higher education sectors. He described Maldivian pedagogical practices:

> The traditional 'chalk-board-talk' dominated the teacher-centred methodology throughout the primary and secondary schools, and even the higher education institutes. …The assessment-driven methods lacked creativity, which was largely ignored in tertiary institutions, thus limiting students' innovative research… The tradition of spoon-feeding [means] facts, lessons and notes were replicated in the exams. Spoon-feeding materials to students meant that teachers did everything for them or told them everything that they needed to know, thus preventing them from having to think or act for themselves. (Kinaanath, 2013, pp. 174-175)

This finding makes the connection with knowledge replication practice in classrooms which could be influenced by some aspects of cultural practices in the Maldives. Although Mohamed (2006) and Kinaanath (2013) did not explain the reasons behind the exam-oriented and content-focused pedagogy, their observations clearly draw attention to the deep rootedness establishment of this pedagogy in the education system of Maldives.

Some researchers argue that perhaps this practice of pedagogy is associated with exam-orientated system which was formed through Maldivian teachers' dependence on the international examinations. Bray and Adam (2001) argue that UK-based international examinations place a great demand on the education system of the Maldives. Liyanage and Bartlett (2008) claim that Maldivian participants in their study expressed difficulty in bringing changes in the classroom practices due to the contextual influences related to the system of education in the Maldives. Thus, teachers are heavily influenced to replicate expected practices. Liyanage and Bartlett's research participants also highlighted the pressure of overseas imported textbooks since they have no control over the examinations. This idea again links closely to teachers being technical experts of content knowledge delivery. However, Mariya (2012) assumes that an examination-oriented pedagogy could be linked to the unlimited overseas scholarships available for further studies, since she argues it is a common trend in the Maldives for students to apply for overseas scholarships. Ultimately, the highest scorers attain scholarship placements in international universities. She further confirms that perhaps parents, teachers, and students concentrate on examinations for this particular reason. Thus, the pedagogical habits formed through teachers' everyday teaching become examination-oriented and content-focused.

In addition, Ahmed et al. (2012) explain that teacher education pedagogical practices in the Maldives concentrate on imparting theoretical teaching knowledge. The teaching practicum is the only opportunity that student teachers get to understand the teaching profession in practice. Moreover, directly after student teachers' graduation, they are placed as full-fledged teachers in schools without an internship year. This could also influence how the pedagogical practice in the Maldives is continuing the unchanging pedagogical tradition. Faiz (2007) believes that teacher education pedagogy is also content-focused due to the limited time and the expected teaching of content-heavy module. This means that teacher educators often concentrate on covering the content of modules without much thinking about how that content is understood by student teachers. This idea again links to reproduction of pedagogical practice over decades since the prospective teachers are taught to rehearse the content without making it meaningful to them. Ultimately, teachers themselves are considered as experts of delivering knowledge, teaching becomes a practice of delivering the ready-made knowledge, thus helping students to store the knowledge received by experts (Gilbert, 2005).

Apart from broadening an understanding of teacher educators' pedagogical practice, my research also seeks understanding of their use of digital technologies. Therefore, providing an overview of technology status in the Maldives is necessary for this research.

Technology Status in the Maldives

The Internet has been extremely important for the development of the Maldives due to its geographic isolation and archipelago structure. Ahmed (2004) argues that the Internet penetration in the Maldives ranked as number one among South Asian nations. Galpaya (2008) argues that though the Maldives has seen significant growth of subscribers to technologies, broadband is still patchy, with only the major islands having a choice of broadband providers (Galpaya, 2008). However, a recent study indicated that the uptake of the mobile telephone, computers and the Internet by people of the Maldives has grown tremendously relative to other developing countries (Riyaz & Smith, 2012).

Due to the improvement in telecommunication and the Internet facilities, the Maldives became more open to the global communities during the last few decades (Hoque et al., 2012). The Maldives taken the lead in terms of e-government readiness, ranking among South Asian countries (Rahman, 2010). These arguments indicate that digital technology affordances for people of the Maldives have increased during the recent years. Table 2.2 below provides limited information about the technology infrastructure in the Maldives during 2001 to 2013, which was available mostly on the Internet. There is little information published or readily available about the technology infrastructure in the Maldives.

Table 2. 2. Technology infrastructure timeline in the Maldives

Year	Computer-technology movements and status	Source
1980	- Computer was introduced	(Minges & Gray, 2004; Reddi & Sinha, 2004)
1999	- Introduced a national project for making all students computer literate	
2001	- Internet connection provided by *Dhiragu*[2]	
2002	- Computer for personal use 21.9%(the capital city) and 1.3% (the atolls)	
	- 10,000 computers were imported to the Maldives	
2003	- The start of establishing e-government	
	- Introduction of ISP through several internet providers such *Dhiragu* & Internet provided by Focus *Infocom* (telecommunication providers)	
	- Installed infrastructure across all government sectors	

[2] Telecommunication provider (public-private-company)

Year	Computer-technology movements and status	Source
2004	- Broadband subscribed to by government offices, large companies and schools - Dial Internet packages introduced to personal computers - Public Internet cafes introduced - Mobile phones, computers, and Internet use have become part of everyday activities among people - UNESCO has many resources for improving use of technologies - Introduction of Maldivian local language support in Windows XP	(Minges & Gray, 2004; Reddi & Sinha, 2004)
2005	- *Wataniya*[3] entered the business of telecommunication and the competition between *Wataniya* & *Dhiragu* made the mobile service reasonably less costly for Maldivians.	(Rahman, 2010)
2006	- Fibre-optic cable connecting Maldives to other countries installed - 80% penetration of telecommunications services achieved across all islands 27.9% of Maldivians have computers, 7.9% have an Internet connection	
2007	- 100% mobile phone coverage across all islands of the Maldives	
2008	- Internet users were approximately 33000	
2009	- Third generation (3G) service launched	
2010	- Broadband users were approximately 36,549	
2011	- Fixed line services provided by *Dhiraagu* to all inhabited islands - *Wataniya* mobile services covered 158 out of 200 inhabited islands; 7 industrial, and 73 out of 89 resorts - 24,084 fixed lines in the Maldives - Broadband users were approximately 76, 439 people	(Zuhyle, 2012)
2012	- Fourth generation (4G) service launched	

Table 2.2 illustrates the growth of technology affordances and its penetration into the Maldives. Maldives is an example of a country with a national policy for improving the use of technologies in education and other sectors. Ahmed (2004) explains that the Maldives has undertaken several activities for promoting digital technology use among Maldivians. These include introduction of ISP in 2003 through several Internet providers, such as '*Dhiraagu*' and Focus '*Infocom*'; discounts being offered for telephone lines in order to increase the affordability of Internet among local communities; a number of events to increase awareness among the public, such as Internet fairs and web-design competitions; provision of computer labs at schools for enabling computer literacy, and to

[3] An international mobile provider

increase affordability to access computers, the import duty for computers was reduced significantly. This was important since the Maldives has no local companies creating computer hardware. As a result, the last few years have seen a noticeable growth in digital technology users, as illustrated in Table 2.2.

The Ministry of Communications, Science and Technology (MCST) is the controlling body of the policy level issues associated with technology and its penetration across different parts of the Maldives (Rahman, 2010). The telecommunication sector of the Maldives is operated by two national companies and one international company. These three licensed providers are *Dhiraagu* (a national company operating fixed line, mobile services and the Internet) *Wataniyya* (an international company operating mobile service only), and Focus *Infocom* (a national company providing broadband service only) (Zuhyle, 2012). Two submarine cable systems connecting the Maldives with the rest of the world, one operated by *Dhiraagu* with Sri Land Telecom (SLT), the other, operated by *Wataniya*, links the Maldives to India (Zuhyle, 2012).

Although technology infrastructure is established in the Maldives, the use of technology in the education sectors is still limited. Hoque et al. (2012) claim that technology infrastructure designed in schools is mostly used for administrative work purposes such as preparing reports, lesson plans and searching for teaching resources. These tasks are related to teachers' use of computers, but not necessarily for their teaching in classrooms. Though the country has a technology policy for implementation within the education sector, the technology capacity in the education system does not help teachers to manipulate technologies for their everyday pedagogical practices. Moreover, the use of technologies for searching materials is difficult due to slow Internet speed and the lack of technical support for helping people to use digital technologies (Riyaz, Rijal, Shrestha, & Nashfa, 2012). They further highlight many future challenges such as infrastructure issues, difficulty of using local language for searching, copyright issues, establishing electronic libraries, and cost efficiency. This means that digital technology use by teacher educators in this research ought to be understood in the light of these factors in the Maldives.

Chapter Summary

The chapter has provided an overview of the Maldives geography, cultural background, and education system. It also examined the literature pertaining to pedagogical practices established in the Maldivian culture. This is pertinent for understanding teacher educators' formed pedagogical practice in the Maldives. The chapter closed by providing a general overview of technology infrastructure in the Maldives.

Chapter Three: Literature Review

In the previous chapter, I raised the idea that certain cultural norms have been established in the Maldives' education system as a result of a range of historical, religious, and social practices. The aim of this study is to explore teacher educators' pedagogical and technological practices within this specific cultural framework. The chapter is divided into two main sections. Firstly, it focuses on examining how teachers conceptualise pedagogical practice and how their culture impacts on their conceptualisation of pedagogical practices. Secondly, the literature evaluates aspects related to the shaping of pedagogical and technological practices among teachers and how their institutional context influences their digital technology uses. The literature frames how I might understand what happens in my participants' pedagogical practices in the Maldives.

Pedagogy and Pedagogical Practices

In order to explain pedagogical practices, it is essential to understand the connection between teaching and learning. Freire (1993) argues that learning occurs when students are actively involved in the learning process. In his later writing, Freire (1998) explains that in order to allow learners to actively participate, teachers need to use specific techniques that expand the learner's thinking and experiences. This idea of teaching relates to the recognition of a learner's "capacity for learning" (Van Manen, 1999, p. 14). This also means that teachers need to focus on students' learning situations and conditions (Hamilton & McWilliam, 2001; Van Manen, 1999) and, as such, make these situations and conditions meaningful to students (Loughran, 2006). This idea signals something of the interactions that ought to take place between students and teachers during the learning process. These views suggest that teaching involves the process of students actively constructing knowledge through their participation in the learning experience. However, it is noteworthy that these explanations are derived from American and Western contexts where the meaning of learning and teaching could be different from a specific cultural context such as the Maldives. The meaning of students' interaction or participation could be understood differently by teachers or learners in such a context, and accordingly the emphasis given to that aspect could also vary depending on their own specific cultural dispositions.

Bell (2003) argues that pedagogy involves contextualising the teaching process through various strategies that involve helping students to construct knowledge. Teachers, therefore, need to think consciously about "what is [more] appropriate and what is less appropriate for children and what are appropriate ways of teaching and giving assistance"

(Van Manen, 1999, p. 14) when facilitating learners' knowledge construction processes. Loughran (2006) asserts pedagogy involves a reciprocal relationship between the two ends of the teaching-learning continuum. It means that teaching influences learning and learning influences teaching. Loughran (2006), Van Manen (1999), and Bell (2003) suggest that pedagogy is about making connections between the teaching and learning process. These views also refer to teachers' pedagogical practices that are shaped through a reciprocal relationship between the two ends of the teaching-learning continuum. In other words, what teachers teach ought to be connected with an understanding of the ways in which learners learn. The literature above suggests that the purpose of pedagogy is to design learning that is centred on learners developing and creating knowledge, rather than positioning students as empty vessels to receive the 'ready-made' knowledge. This idea of pedagogical practice ostensibly rejects the idea of rote learning, such as the learning recitation of the *Qur'an* without understanding as a form of learning; even though it is practised in the Maldives (refer Chapter Two).

Ellsworth (1997) suggests that teachers need to be aware of who learns and who teaches. She argues that teachers have to recognise "the unconscious in pedagogy" (p.54). She further explains that teachers should shape the pedagogy into a mode that enables them to address students in the same manner that a movie director addresses the audience. A movie director addresses the audience using different techniques in order to meet demands of this audience. The teacher does the same by attempting to pursue the objectives of the curriculum, using different methods and techniques to make the learning meaningful for the learner (Ellsworth, 1997). However, Felman (1987) argues that teachers cannot control the learning experience. Teachers cannot access what learning takes place for individuals, what is going on in their minds, or control their thinking. This means that teachers must design opportunities for learners to think and construct knowledge for themselves as active leaners who are capable of making meaning. In contrast, Gilbert (2005) claims that receiving knowledge is different from knowing. She explains that:

> Knowing how to learn, how to keep learning, how to learn with others… the ability to master specific bits of knowledge. …the ability to see a number of possibilities for solving a problem is …more important than knowing the right answer. (Gilbert, 2005, p. 67)

Gilbert's views affirm that teachers should respect both learners' ability to construct knowledge and their participation in the learning process. This idea contrasts with the example of the early experience of Maldivian children who always learn and recite the *Qur'an* without understanding what they recite. The process of knowing does not take place in this learning process; rather they are receiving an unchanging fixed knowledge

without understanding what it means for them. However, this learning form could be considered as part of the cultural practices, which may leave some imprint on the learning and teaching environments in this specific culture.

Some researchers, however, argue that pedagogy is sometimes seen as a temporary act in which teachers deliver knowledge and students receive it accordingly (Felman, 1987; Gilbert, 2005). The idea of teaching is associated with the notion of "intellectual perfectibility" (Felman, 1987, p. 76) alternatively described as learners' ability of "knowing the right answer" (Gilbert, 2005, p. 67). Gilbert (2005) further presents an example of the view of a traditional mental model of knowing or learning, in which the relationship between knowledge, mind, or learning is considered. Combining these three concepts suggests that knowledge is something which could be stored in the mind through the process of learning. Knowledge, then, is understood as given or provided, the mind is treated as a container which is to be filled, and learning is seen as a process of receiving that is done in order for knowledge to be stored in the mind (Gilbert, 2005). This means that teaching, through this lens, can be satisfied as soon as students learn to reproduce the correct answers to specific questions. Within this idea of teaching, knowledge construction is not emphasised, rather it is helping students receive ready-made knowledge. In some cultures, teachers may be more focused on the amount of knowledge that students learn over a given time, rather than allowing students to construct knowledge. Thus, pedagogical practices may centre on teachers' teaching, rather than on students' learning. This leads to the need to understand how pedagogical practice is conceptualised, which is addressed next.

Conceptualisation of Pedagogical Practice

Pedagogy involves learning to teach. It is therefore concerned with the two aspects of *what* to teach and *how* to teach (Borko & Putnam, 1996; Kansanen, Tirri, & Meri, 2000). This idea of learning about teaching links with Shulman's (1986) theory of pedagogical content knowledge (PCK), encompassing the relationship between content and pedagogical knowledge. According to Shulman's understanding, teachers develop the knowledge about how to teach subject matter in a meaningful way to learners. Grossman (1990) identifies the components of PCK as including the knowledge of subject matter, nature of students, contextual difficulties, curriculum knowledge, and instructional strategies that are employed by teachers. These aspects contribute to teachers developing their understanding of pedagogical knowledge. However, it is noteworthy that teachers' learned pedagogical knowledge could be different when it relates to their actual practice.

Researchers mainly categorise pedagogical knowledge as formal knowledge and practical knowledge (Edwards, 2001; Loughran, 2006, 2010b). Formal knowledge is understood as learnt knowledge about teaching, in terms of understanding learners, teaching approaches, and managing student learning. These skills and knowledge are mostly acquired during teachers' university education. On the other hand, practical knowledge is understood to be learnt through the experience of implementing learnt knowledge in a workplace context (De Vries & Beijaard, 1999; Fenstermacher, 1994). Edwards (2001) argues that learning to teach cannot be achieved the same way as learning to apply paint to a wall. Teaching, rather, refers to using learnt knowledge in practice, and this is not a simple task, because this application requires discernment and continual adjustment in relation to the classroom context and the moment. Edwards suggests that teaching is a process of conceptualising practical knowledge in relation to learnt knowledge.

Further to the argument above, Cochran-Smith and Lytle (1999) describe practical knowledge as "knowledge *of* practice" (p. 250). It refers to what happens when teachers actually practise teaching and treat their classrooms as sites for understanding pedagogy. In these sites, teachers apply the knowledge and theory that is produced by others to see how this works in their classrooms, and accordingly, practical knowledge develops. Cochran-Smith and Lytle (1999) further argue that this knowledge of practice is produced or formed through socialising processes in the context of practice. Some researchers have identified this knowledge as "personal practical knowledge" (Connelly & Clandinin, 1988, p. 25). Connelly and Clandinin (1988) define personal practical knowledge as being formed "in the teacher's past experiences, in the teacher's present mind and body, and in the future plans and actions" (p. 25). Their argument is that teachers conceptualise their pedagogies when linking with their past and present experiences in the classrooms. This means that the conceptualisation of pedagogy comes from teachers' own experience of learning, through interaction with their students, colleagues at work, students' parents, and through other situations and other roles associated with their society (Schildwacht, 2012). These views suggest that teachers conceptualise their pedagogy through formal knowledge, practical knowledge, and also through both their past and present experiences.

Practical knowledge is often understood as pedagogical knowledge, which involves making teacher learning explicit in classroom contexts. Loughran (2010a) argues that knowledge of pedagogy does not offer information about how and what teachers exactly need to do in their teaching. Instead, it provides a basis for what becomes implicit knowledge. Loughran (2010b) asserts that teacher conceptualisation of tacit or implicit pedagogical knowledge depends on how teachers realise the practicality of knowledge

through their everyday dilemmas and experiences in their classrooms. Loughran and Northfield (1996) provide many examples of how teachers adopt different ways, as they teach in different situations with a variety of student learning demands. This means that sometimes what a teacher expects may not necessarily work. At other times, something that works in one classroom may not work with another group of students. Although the classroom contexts that Loughran and Northfield discussed are not necessarily similar to Maldivian classrooms, the conceptualisation of pedagogical knowledge by my participants may have been realised in the same way, depending on the practicality of their learnt formal knowledge for their practices. Understanding how teacher learning becomes explicit in practice is an important aspect that I am keen to explore in teacher educators' pedagogical practice in my research.

According to Loughran (2010b), teachers trial different strategies and decide what works and which way it works in their classrooms. Dewey (1934) suggests that teachers should seek ways for making things work so that they are able to envisage these strategies to meet their student learning needs. If teachers seek ways to make their practices work, they are likely to be influenced by their own reasons, thinking, and prior experiences or modelling by others. This means that the teachers' conceptualisations of pedagogy and its practices may link with their own decisions and reasons. In turn, these are most likely to be influenced by their beliefs and dispositions. Therefore, the pedagogical strategies teachers choose can arise from their own backgrounds and culture about what is suitable for their practices. However, Freire and Macedo (1995) argue that teachers need to find a balance between theory and practice. This means that when teachers decide which approach works for their teaching, it ought to be in light of what they learnt about teaching and how it works for their students' learning demands. That also means that whatever approach teachers use, it ought to be purposeful so as to make the learning relevant to the context of the practice, meanwhile justifying how the applied understanding is relevant to their teaching.

Some researchers investigated how teacher conceptualisation of pedagogical knowledge takes place. For example, Elbaz's (1983) work with teachers in Canada investigated the conception of practical knowledge. She reported situational, theoretical, personal, social and experiential knowledge. Elbaz (1983) further defines practical knowledge as a way of practising and adjusting context-specific knowledge within teaching practice, which "encompasses first-hand experience of students' learning styles, interests, needs, strengths and difficulties, and a repertoire of instructional techniques and classroom management skill" (Elbaz, 1983, p. 5). She explains that teachers actively construct these knowledge bases through their actual teaching practice. She explored practical knowledge pertaining

to the involvement of teachers in various issues: their attitudes, conceptions of subject matter, values, commitments and career plans.

Elbaz's study drew on teacher conceptions of practical knowledge as "bodily experiences" rather than the implementation of learnt knowledge from standard theories of teaching. Her findings suggest that conceptualising pedagogy is not merely applying learnt theoretical knowledge. She argues that practical knowledge is formed through routines on the one hand and the teacher's own reasoning when developing meaningful practices in the context of practice on the other. This finding suggests that reasoning can be influenced by a teacher's prior experiences, practices, and cultural dispositions. Since participants in Elbaz's research are teachers in the school context, it may raise the question, however, as to how far the same understanding of teacher conceptualisation in her research could be applied in understanding teacher educators' pedagogical practices with a range of teaching experience in both schools and teacher education classrooms.

Borko (2004) concedes that pedagogical knowledge is developed when teachers are actively involved and enculturated in pedagogical processes. Britzman (1989) argues that teachers learn pedagogical knowledge via ethnographic experience, by living in the learning journey. The ethnographic experience of living in the journey of developing pedagogical knowledge is implied by the transformation that takes place when one moves from one experience to another. Freire, Macedo, and Leach (1999) also argue that learning pedagogical knowledge is both active and interactive. They draw attention to the essential role of teachers in facilitating their own learning, rather than applying what is being taught about teaching into their practice. In such learning journeys, teachers are able to exchange ideas learned, perhaps, both formally and informally, with their own experience in classrooms (Edwards, 2001). These researchers (Borko, Britzman, Freire, Macedo, Leach, and Edwards) suggest that learning pedagogical knowledge through ethnographic experience, participation, and active involvement enables teachers to develop their pedagogies through everyday experience, situations, and activities in classrooms. This idea could be usefully applied to the context of my research. As discussed earlier, the Maldives has its own cultural norms, which perhaps also influence the way teachers conceptualise their pedagogical knowledge (refer Chapter Two). These views suggest that in such contexts teachers may form habitual pedagogical practices as they develop their pedagogical knowledge.

Barton and Berchini (2013) argue that teachers conceptualise pedagogical knowledge through the notion of "becoming an insider" in three pathways associated with the context of practice: "active positioning" (where teachers seek to position themselves inside the

context); “critical navigation” (where teachers navigate through challenging experiences in the context); and “symbolic engagement” (which involves understanding relationships with students and other aspects associated with the context) (pp. 23-25). Barton and Berchini suggest that in the Maldives, regardless of teacher educators being educated overseas, their actual pedagogical knowledge may have been formed through these pathways. Therefore, the dispositions formed in the context of their practice can neither rely on the theoretical knowledge learned nor the empirical research outcomes that were theorised in other contexts. Barton and Berchini (2013) also suggest that there is the potential for changes that might occur when historical and social cultural dimensions of the existing context of practice are added in the learning of pedagogical knowledge, such as in the Maldives. Similarly, Wright (2007) argues that shifting pedagogical practices to a different way of pedagogical thinking could be difficult for teachers who have already established their own pedagogical values, practices, and pedagogical content knowledge (PCK), even if, as the case with Maldivian teacher educators, such external overseas influences exist. This difficulty and complexity of changing pedagogical thinking is associated with the culture, context, and teachers’ backgrounds in which teacher-pedagogical knowledge is being established.

The literature review to this point has discussed the conceptualisation of pedagogical knowledge by teachers. Though this literature helps me to understand how teachers conceptualise pedagogies, it leads to a question of whether or not the conceptualisation of teacher education pedagogical practice would be different.

Conceptualisation of Teacher Education Pedagogies

Many researchers argue that teacher education pedagogy is not well-defined or theorised in terms of what exactly teacher educators should “know or be able to do” in order to become a proficient teacher educator (Goodwin et al., 2014, p. 284). Loughran (2006) comments that teacher educators’ teaching should encompass two levels of understanding pedagogy: the nature of the content to be taught to student teachers, and the nature of teaching to be implemented. Garcia and Rose (2007) claim that teacher educators have dual responsibilities in their pedagogical roles. One is to transfer pedagogical content and the other is to model the best pedagogical practices. Similarly, Goodwin et al. (2014) argue that this duality is also represented in “doing and knowing” about pedagogy (p. 286). In addition, Williams (2014) suggests that teacher education pedagogy requires them to be able to shift professional identities between the two roles as teachers and teacher educators at the same time.

The literature, in this sense, suggests a notion of dualism in teacher education pedagogy. Due to this dual responsibility, teacher educators must develop a thoughtful pedagogical practice that goes beyond the skills typically used in normal classroom teaching, because their teaching is, or should be, continuously and critically examined by student teachers (Loughran, 2006). However, examining this understanding of dualism in pedagogy does not bring much clarity about how pedagogical practice of teacher education is conceptualised. Moreover, it leads to a question of whether or not teacher educators might be influenced by their own individual factors (such as their backgrounds) or contextual factors (such as institutional or cultural context) when conceptualising their pedagogical practices. These are some key elements of my focus in understanding about my participants' pedagogical practices in the Maldivian context.

Learning pedagogy is an unfolding and complex process. It is, therefore, crucial to teacher education practices. Loughran (1997) argues that teaching about teaching is different from simple pedagogical knowledge because:

> The content of this knowledge encompassed both 'a knowledge of pedagogy' as well as a knowledge of the subject matter content. …helping student teachers to learn about and experiment with pedagogy for particular subject matter knowledge involves a knowledge of pedagogy that might bring this knowledge to the fore. … This special knowledge of teaching about teaching is tacit knowledge…easily overlooked by others, taken for granted by teacher educators themselves, and consequently neither sufficiently understood nor valued. (p. 4)

According to this view, the teacher educators' pedagogy is much more complex than normal classroom teaching. Teacher educators are therefore, required "to make the tacit explicit" (Loughran, 1997, p. 4). They have to answer questions related to explaining reasons and how they work for better learning and teaching practices, including articulating when certain pedagogies suit certain situations. This draws attention to teacher educators' pedagogy being different from normal teaching in classrooms because it "requires deep and well-conceptualised understanding of pedagogy" (Loughran, 2010b, p. 14). This understanding must be also "developed, articulated, critiqued and refined in the crucible of practice itself" (Loughran, 2010b, p. 14). These views place teacher educators in the position of learners of their own practice, teachers of their student teachers, experts of pedagogical knowledge, and evaluators of their own pedagogical practices. These multiple positions may sometimes bring complexity in terms of how teacher educators conceptualise their pedagogical practice. However, both these papers by Loughran did not place much emphasis on either the cultural influence or the influence of teacher educators' own background on their conceptualisation of pedagogy. It could be argued that if teacher educators are being positioned as learners, teachers, or evaluators of their own practice, they are likely to be influenced by their own backgrounds and culture.

Some researchers share their experiences of both being a teacher and teacher educator, highlighting the differences in terms of the way pedagogy is understood and practised. Kosnik (2007), for example, describes her experiences of her uncertainty in the pedagogical approaches she used during her teacher education pedagogical practice. Adopting a reflective approach, through an observant and analytical lens made her develop better understanding of her teacher education pedagogy. Her teacher inquiry practice is a form of analysis that continuously enables her to seek deeper understanding of the challenges associated with her own practice. Such "inquiries represent an active enterprise with outcomes sometimes represented as teacher knowing (implying learning that is in a state of evolution) rather than teacher knowledge (implying learning that is fixed and stable)" (Clarke & Erickson, 2004, p. 55). This notion of inquiring into one's own practice can be understood as self-studying or researching one's own practice, which is parallel to fields of research such as "reflection, action research, teacher research, participant research and practitioner research" (Loughran, 2004, p. 9). Loughran (2006) draws attention to this notion of teacher education pedagogy in which teacher educators are constantly encouraged to reflect and theorise their own practice. It is "to better understand the nature of teaching and teaching about teaching and in so doing, improve the quality of teacher education" (Loughran, 2004, p. 30). The literature in this regard suggests that teacher educators' positioning themselves as learners of their own practice can lead them to enhance their pedagogical practices. In such circumstances, the reflection becomes the hallmark of their conceptualisation of pedagogical practices.

Reflection is thus an integral precept in forming teacher education pedagogy (Brookfield, 1995). The term 'reflection' has appeared in the writing of researchers since the 1980s, as an essential element of seeking expert knowledge in different disciplines (Go, 2012). For example, Mezirow (1991) saw reflective practice such as writing biographies, journal writing, and performing teaching as a means for fostering learning in adult education practice. Explaining reflective practice, Schön (1987) proposed three types of reflection: reflection-in-action (thinking about an on-going situation); reflection-on-action (thinking about a situation afterwards); and reflection-for-action (thinking about what happened to guide better practice). Schön further identifies three elements important to this reflective process: to be conscious (though not clearly articulated), critical (on-going evaluation) and spontaneous (room for more concerns to rise). Reflection can be understood as a process of 'thinking on the run', which allows teacher educators the opportunities to articulate their pedagogy when novices (Schön, 1987). Though Schön's explanation of the reflective process is technical in terms of how it takes place, it is likely to be useful for understanding how teacher educators may evaluate their own practice as they continue

in the teacher education profession. These views suggest the importance of reflection for enhancing teacher education pedagogical practice.

Goodwin et al. (2014) argue that often teacher educators report that they are not prepared for their roles when they start their careers as teacher educators. They further suggest that even after years of experience, it is difficult for teacher educators to articulate what exactly they should know or be able to do when becoming a teacher educator. Loughran (2014) suggests that teacher education pedagogical knowledge develops through teacher educators' active involvement in researching their own practice, which also requires them to have an agency in developing their own pedagogy via scrutinising the implementation of gained knowledge. These views imply that teacher educators' pedagogy should be linked to reflective practice situated as learners, rather than experts. This means that learning about their practices never ends.

These studies imply the value of teacher educators' regular evaluation of their teaching. However, how might teacher education practice be understood in a context where reflective practice and research is not currently a feature of their professional lives? The context of this study is a very small country, where university education has only recently been introduced. Perhaps this is why research has not yet established within the wider academic culture. In the context of my research, examining how specific pedagogical practice is conceptualised, whether through cultural habits, exposure to their university education, and other factors, is likely to be important for understanding my participants' practices.

Teachers' or teacher educators' conceptualisation of pedagogical knowledge, whether learnt prior to entering actual teaching careers or during their practice, is likely to be influenced by many aspects associated with their experiences. The literature above discussed how this conception of pedagogical practice could be influenced by everyday teaching in classroom contexts. This means that in the Maldives, while many teachers and teacher educators acquire their qualifications overseas (formal knowledge), their pedagogical knowledge is formed by their schooling and teaching experiences in the Maldives. In other words, this particular context may define their pedagogical goals. More specifically, I want to know if teacher educators' practices are influenced by their own culture and the classroom context in which they practise.

Culture and Pedagogical Practice

Researchers in pedagogical studies consider culture to be an important aspect of the formation of pedagogical thinking. Toure, Diarra, Karsenti, and Tchameni-Ngama (2008)

suggest that culture can be broadly seen as a way of understanding people's lives. It therefore, "matters because it is a way in which … [people] connect with others and with [the] environment and [how they] take part in society" (p. 7). This means that when people live in one community they tend to internalise aspects through being part of the cultural community. Jenks (1993) suggests that culture is a "collective noun used to define that realm of the human being which marked its ontology off from the sphere of the merely natural" (p. 8). Taking account of these views, culture is viewed as a space in which humans are connected to each other and are likely to form dispositions by being attached with specific collective community perspectives. Jenks (1993) notes here that people within the same culture have a tendency to be attached to collective "symbols", "customs", and "habits" (p. 8). Thus, "the symbolic representations" that people are identified with, their specific "groupings", "classifications", and "manifestations" (Jenks, 1993, p. 9) can be recognised as cultural representations. Jenks (1993) argues that humans have consciously predisposed and assimilated a "baggage of collective knowledge" (Jenks, 1993, p. 13) that characterises their culture. These combined perspectives on culture offer an understanding of people's lives as involving a continuity of attachment to one another. Hence, their ideas, beliefs, and ways of doing things become connected. Cultural influence, particularly connectedness, informs individuals about how to perform in certain ways when practising their professions. Since the Maldives is a small country where certain religious principles and cultural practices are ubiquitous (refer Chapter Two), perhaps culture is one way of examining the factors that influence the shaping of specific pedagogical practices among teacher educators, particularly when they add digital technologies to their repertoires. Cultural norms and specific cultural dispositions may play an important role in the formation of pedagogical practices among these teacher educators.

Affirming the idea of connectedness, Richardson (2001) argues that "cultures are not isolated and it is never possible to draw a circle around one particular conception" (p. 42). Although individuals have the potential to act freely in their own culture, they also have important elements which, to a certain degree, determine when they should participate in a given culture and what individuals should accept (Richardson, 2001). Thus, through participating in individuals' own culture, they establish relationships with others and replicate what is being observed or participated in. Individual practices are both unconsciously and consciously connected through participating in community activities. Furthermore, McLaren (1999) argues that people's practices are formed through an on-going interaction within the social world, which involves social relations, cultural formations, and institutional arrangements. He argues that through this interactive

dialogue, people generate critical thoughts through their efforts to seek meanings in their practices. These views imply that it would be impossible to separate one's ideas, thinking, beliefs, aspirations, upbringings, habits, routines and life styles from the way one teaches, irrespective of whether this teaching is consciously or unconsciously influenced by culture. This means that pedagogical dispositions are mutually affected by historical and social cultural aspects, both within the physical space of the community and in the specific context in which the pedagogical practice is taking place (McLaren, 1999). This understanding suggests that people's experiences in their culture can influence their formed practice. In the case of teacher educators' pedagogical practice, this means their experience of living in the Maldivian culture probably would have influenced their practices.

In addition, Richardson (2001) argues that culture is a key space where individuals continue to embrace views, ideas, and thinking throughout their lives. Gay (2010a) claims that teachers' culture offers insights, values, and beliefs on how teachers' roles and responsibilities can be accounted for and by implication, the instructional designs and judgments that are made in their teaching. These ideas resonate with my project. They reflect a way of understanding and conceptualising pedagogical practices in the Maldives. The Maldives has its own long-established culture of pedagogical practice. Therefore, the meaning of learning, values of learning, and approaches to learning are most likely to be influenced by the way that teaching is practised in Maldivian schools and teacher education institutions. The dispositions formed among teachers or teacher educators are likely to include their "values, aims, and philosophy of education" (Bell, 2003, p. 3) and "aspects of instructions and social vision" (Gore, 1993, p. 4) in their specific cultures. These views imply that teachers' backgrounds and cultural practices are part of their everyday pedagogical practices in a given context.

Researchers across various cultural contexts highlight the notion of embodiment in terms of people's habits and routines in pedagogical practices (Cheng et al., 2010; Kukari, 2004; Wong, 2005). These researchers raise arguments that individuals' religious and cultural givens may become part of their practices as a form of replicating their own learning experiences in their existing pedagogical practices. Lortie (1975) argues that the teacher socialisation process is closely associated with the initialising of teachers' own learning experiences and the models they observed when they were learners. Pajares (1992) suggests that often teachers' conceptions of learning pedagogical practice is strongly influenced by their own experiences of learning. Thus, the decisions and judgments they make in teaching are embedded in their own experiences. He argues that although student teachers develop various educational philosophies during their learning

about teaching, their own learning experiences depict the implicit practices related to the context of their teaching. His views suggest that this depiction of a teacher's own learning becomes entrenched in their way of learning about teaching. It, therefore, influences not only their conception of teaching but also their actual pedagogical practice. He referred specifically to teachers relying on their own early schooling experiences when teaching. This highlights the importance of formative educational experiences for the future shaping of pedagogical practice.

Raising a similar argument, Kukari (2004) examines Papua New Guinea's indigenous culture and its influence on student teachers' preconceptions of pedagogy. His investigation has drawn some useful conclusions of how individuals' early learning can be part of what they understand about pedagogy. Although his argument is clear about the influence of early learning experiences on the conception of pedagogy, its effect on their actual practice may be difficult to understand through his conclusion. The findings, however, strongly suggested that people may have pre-conceived ideas about teaching prior to their learning about pedagogy. Wong (2005) found that her participants from Hong Kong had some influence from their pre-understandings of what music teaching means for them, this accordingly reflected on their teaching. Opfer and Pedder (2011) also argue that teachers develop their understanding of practising pedagogy through forming their beliefs as a result of early experiences of their own as students. As Opfer and Pedder's (2011) argument is drawn from a review of teacher literature, it did not fully explain how teachers' early learning might influence their pedagogical practices.

Kansanen et al. (2000) consider that there are two aspects related to this process of conceptualising pedagogy: one closely relies on teachers' personal views of good teaching, and the other in forms the practical decisions on the view and basis of good teaching taken into account when teaching. These views can be helpful in anticipating what happens in any pedagogical context. In my study, I need to know if teacher educators in the Maldives have formed their understanding of pedagogy during their own schooling. In this regard, teacher educators' views of pedagogy and what it means to teach could be embodied ideas from their own backgrounds. This is a key focus in my research. Supporting the same argument, Brand and Glasson (2004) argue that pre-service teachers' backgrounds exert an influence on their belief system, and hence, their conception of teaching practice. Randi and Corno (2007) suggest that individuals draw their understanding from their prior knowledge and past experiences when translating theories into their practice. These views draw attention to the idea that the baseline of knowledge is reflected in individuals' emerging experiences of learning "through multiplicity, through all acts of knowing" (Dixon & Senior, 2011, p. 473), which includes

early experiences. Dixon and Senior (2011) further argue that both teaching and learning involve the emergence of unconsciously embodied experiences that are related to student teachers' physical, emotional, intellectual, and spiritual aspects of their early lives. This idea brings the notion of an individuals' pedagogical practice which could be interrelated with many aspects of their cultural upbringings.

In addition, Kisiel (2013) asserts that regardless of well-established teacher education programmes and exposure to various teaching communities, the pedagogical act may still fail to change teachers' enculturated early learning thinking in the teaching context. Although the findings above involve student teachers' conceptions of pedagogical practice, it can be useful for understanding the influence of early learning on people's ways of teaching. Belland (2009) argues that both teachers and teacher educators form teacher-centric pedagogies which can be traced back to "folk pedagogies" (p. 356). The literature, in this regard, suggests that whether student teachers or teacher educators, early schooling experience may influence the shape of their later pedagogical practices. These views are likely useful for understanding what is happening in the Maldivian context, where teacher educators are raised with certain cultural norms and principles, which probably shape their practices.

The literature discussed above is particularly useful for understanding how specific pedagogical approaches could be ingrained in an individual's practice, such as might be the case in the Maldives. The participants in my research have developed their pedagogical practices in a very small community context, where specific religious traditions and cultural values (refer Chapter Two), plus their own learning experiences, are likely to exert some influence on their shaping of pedagogical practice. The literature outlined here suggests that teacher educators may form cultural dispositions regardless of the possibility of their understanding of pedagogy being different, which in turn may influence their pedagogical and technological practices.

Through what this literature says, many teachers are likely to understand pedagogy in terms of their culture. As my research context is a Muslim community, it is essential to address pedagogical practices with this in mind. The literature thus draws attention to pedagogical practices in Muslim communities in order to understand whether or not teacher educators are influenced by their Muslim cultural dispositions.

Influence of Islamic Culture

Some researchers draw attention to how specific epistemologies can influence pedagogical approaches. Talbani (1996) claims Muslim communities have an

authoritative acceptance of knowledge in the education system. He argues this by saying that "rote memorization … was considered the way to achieve maximum benefits from learning and obedience to authority, and imitation of teachers was regarded as virtuous" (Talbani, 1996, p. 73). If in a culture a teacher is perceived as the main source of knowledge and the learner is the one who receives the knowledge, pedagogical decision-making will mainly involve routinizing transmitting knowledge to its receivers. These views suggest that Muslim communities may embody a notion of pedagogy influenced by the rote learning of knowledge practices delivered by experts or Muslim scholars.

In addition, Samman (2005) claims that teachers adopt historical and traditional teaching methods, which do not support students' thinking about their own learning in Muslim communities. Talbani (1996) explains that the learning and teaching in many Muslim communities rely on "listening, memorization, and regurgitation" (p. 70). He says that teaching thus puts great emphasis on "listening to a teacher, who is active as a transmitter of knowledge, while the student is passive" (p. 70). Waghid (1997) also confirms that early teaching traditions concentrated on memorisation of the *Qur'an* and an understanding of Sunnah (life experiences of the Prophet Muhammad - peace be upon him). This method of memorisation largely involves recitation of the *Qur'an* and retention through frequent repetition. However, he further argues that teachers should permit the learners to think logically and rationally about what they learn from the *Qur'an* and *Sunnah*. According to this view, students are given opportunities to ask challenging questions about what they read in order to understand the *Qur'an* and the *Sunnah* better (Waghid, 1997). This means that when learners recite the *Qur'an* and Sunnah they can reflect upon the meaning of what they learn from their reading. What I need to understand is whether this reflection on meaning is a common practice when children learn to recite the *Qur'an* in the Maldives. This is particularly pertinent to understand because learning Arabic is not part of regular schooling, leading me to ask whether the learning of the *Qur'an* in the Maldives could have similar patterns to those in Waghid's argument.

These views are potentially useful for understanding approaches to learning and teaching Islam (*Qur'an* and *Sunnah*) in contexts where the learners' mother tongue is Arabic, the language in which the *Qur'an* and *Sunnah* were written. However, if learners do not comprehend Arabic, how are they going to reflect upon the meaning of what they are reading from the *Qur'an*? Taking an example from my research context, the majority of Maldivians do not understand Arabic; but the entire population learns to recite the *Qur'an* from a very young age. This particular religious practice has been a culturally practised norm for centuries in the education system of Maldives (refer Chapter Two). It is,

therefore, essential to understand to what extent this particular cultural or religious practice influences learning and teaching approaches in the Maldives. This situation, therefore, makes me wonder how far this could influence the pedagogical understanding of teacher-educators' and their approaches to teaching. Given that Talbani (1996) and Waghid (1997) wrote their papers in the 1990s, while Samman (2005) was published very early this century, it is timely to again test these findings. It is pertinent to examine whether or not my research may uncover similar practices, or the influences attributed to early Muslim teaching can also be traceable in my context of research.

In evaluating education in Muslim societies, particularly the early tradition of teaching methods such as rote learning of *Sunnah* and *Qur'an*, Tibawi (1972) noted that teaching approaches have not changed much over centuries. However, Talbani (1996) claims that traditional teaching changed slightly with the emerging distinction of religious knowledge (teaching about Islam) and secular knowledge (all other knowledge) during the twentieth century in Muslim communities. Even then, religious knowledge was expected to be taught through traditional teaching methods (concentration on delivering knowledge), whereas the secular knowledge could be taught with a variety of Western teaching approaches (Talbani, 1996). Since both Tibawi (1972) and Talbani (1996) are discussing what is common in their Arabic Muslim communities, I am keen to understand how far the rote learning methods could be common due to the early religious education in the Maldivian culture (refer Chapter Two).

Rote learning pedagogy being embodied in Muslim cultures is supported in several studies in the Egyptian context. For example, Megahed, Ginsburg, Abdellah, and Zohry (2008) argue that although Egypt has two education systems, the Islamic Al-Azhar[4] system and a secular modern education system, the teaching trends in both systems are "dominated by teacher-centred, [and] knowledge-transmission pedagogies" (p. 3). This study reports that the major factor in this trend of teaching is the influence of Islamic culture and its embodied pedagogy. It means that teaching is often designed on the basis of memorisation and repetition (Megahed et al., 2008). A recent study by Abdou (2012) indicates that teaching is strongly influenced by the rote learning and memorisation pedagogies of the Islamic culture in Egyptian classrooms. She also notes that even when teachers newly entering the teaching profession have been exposed to standard learning theories (active, cooperative, and constructivist views of learning), they do not necessarily apply them in their teaching. She further claims that failures in pedagogical

[4] Al-Azhar refers to the earliest Islamic education system established in Egypt. Al-Azhar University is one of the oldest Islamic universities in the world, located in Cairo, Egypt.

change are due to the strong embodiment of a traditional rote learning pedagogy established in the school community. Kamel (2012) affirms that a common area which needed to change in the pedagogy of Egyptian teaching was the rote learning trend of her participants' practices, suggesting that rote learning is a common and established practice in such Muslim communities.

Considering these findings discussed above are in Muslim communities, I, therefore, wonder whether the rote learning pedagogy that has been embodied in Islamic cultures has any impact on pedagogical practices in the Maldives. As teacher educators in my research are Muslims, they may have certain dispositions about their roles as teachers. This is an important area that I am keen to understand about teacher educators' pedagogical practices in the Maldives.

The literature in this section suggests that teachers may, for various reasons, understand pedagogy differently. Teachers' pedagogical practices may not necessarily align with what they learn about pedagogy, perhaps being more related to their own backgrounds and cultures or subject disciplines. The literature draws attention to the importance of culture when understanding teachers' pedagogical practices, but it offers limited understanding of how specific cultural practices influence the shaping of pedagogical practice, particularly in teacher education pedagogy. I am seeking to understand how Maldivian cultural dispositions can influence the shaping of teacher educators' pedagogical practices.

Since the aim of this research is to investigate both pedagogical and technological practices, it is timely to review how teachers' backgrounds and cultures influence the way they use digital technologies in their teaching. The following section focuses on examining digital technology-integrated pedagogies and associated models.

Pedagogical Practices with Digital Technologies

As defined in Chapter One, digital technology can be considered as being any physical equipment such as computers, interactive whiteboards, mobiles, iPads, and iPhone, or institutional infrastructure resources (the Internet and networking spaces, such as student and staff networking), virtual resources (such as Moodle, online discussion forums), web resources (helpful websites) and freely available tools (such as Dropbox), programmes/applications (such as proprietary software like Microsoft Office applications), and social networking tools such as Facebook, blogs, or Twitter. Overall, it includes all digital technologies and web resources. Keeping this in mind, the literature in this section examines teachers' use of digital technologies in their pedagogical practice in

order to understand how technology-integrated pedagogical practices in my context of research can be understood. Some key areas I am keen to understand are what pedagogical approaches best suit teaching with technologies and how teachers' conceptualise these approaches.

Effective Pedagogical Practices with Digital Technologies

The meaning of effective pedagogical practices refers to how teachers can best use various digital technologies in teaching to create a better learning environment for students. In the early years of this discussion, many researchers explained what teachers were required to know when designing teaching with various technologies. Many researchers in this regard support the constructivist approach as being the best suited pedagogical design for using technologies in teaching. For example, Brooks and Brooks (1999) suggest that interactive learning environments allow learners to become partners in the learning process, which also leads them to become "autonomous thinkers … [where they] internalise and reshape, or transform new information" (pp. 13-15). Similarly, Boshuizen and Wopereis (2003) analysed benchmarks for designing learning with technologies, in which they supported the social constructivist framework. Explaining more about how this learning should take place, Gallant (2000) argues that teachers must design learning to ensure that students' active involvement is supported in the learning process. In her analysis of professional development for web-based teaching, she noted the importance of teachers' facilitation of students' use of technologies for learning to occur, rather than the transformation of learning through teachers' use of technologies. Pritchard (2007), in his explanation of teaching with the Internet technologies, says that the constructivism design of learning allows learners to build their understanding of "events, concepts, and process" based on their own "personal experiences" through the interaction with others (p. 2).

These researchers' understanding of designing learning is linked to the social constructivist view of learning, which suggests that understanding, meaning or interpretation is partly derived from an individual's interaction with others in the learning context. This idea of how knowledge is constructed is derived from social-cultural theory as proposed by Vygotsky (1978). In this theory, knowledge is actively internalised through conversations or interactions between learners and other individuals who are more knowledgeable. The literature here suggests that students' interaction is a key element of constructivist learning when designing learning and teaching with digital technologies. It thus links to the idea of using technologies for facilitating learning, in contrast to delivering learning through them. This means that students would be given

opportunities for constructing knowledge through their use of technologies, instead of teachers using technologies for delivering knowledge. The former is student-centred, while the latter remains teacher-centred.

More recently, the same idea of constructivist views of teaching with technologies has been explained. For example, Webb (2013) took the two metaphors of learning "acquisitionism" and "participationism" (p. 1), which were originally proposed by Sfard (1998). The acquisition metaphor basically assumes that the human mind is an empty vessel, which learning can be seen as filling, and which also enables the individual to store the knowledge during the transfer process. This way of learning is more like a mimetic approach to learning, in which students commit to storing information in their brains, and recall this information when performing in an examination. This also has parallels with children's learning to recite the *Qur'an* without understanding, as practised in the Maldives (refer Chapter Two). By contrast, the participation metaphor assumes that learning is a process of participation in contexts where individuals are influenced by social interaction (Webb, 2013). The distinction between the two metaphors could be identified in terms of the activities that take place during the pedagogical process. The acquisition metaphor focuses on the product or outcome of the activities (knowledge), whereas the participation metaphor concentrates on the activity and the process itself (knowing). In these two metaphors, the learning scenarios change from passive to more interactive technology-integrated pedagogies. Webb recognises here that the underlying principle is designing student learning through a constructivist approach, where students actively participate in the production of knowledge. Bearing this in mind, my research concerns whether a constructivist approach to learning could be implemented when teachers consider themselves sole experts (teacher-centric) in their views of teaching, such as in Muslim communities as discussed earlier. This leads to a question of how digital technologies would be treated in such pedagogical contexts.

Adams (2011) believes that the constructivist view of learning was not originally grounded on a of basis understanding, which determines the role of digital technologies in teaching or the role of teachers when using these tools. Judson (2006) argues that although constructivist learning and technology integration was "long been tagged with the reform label" (p.592), it has not been clear how constructivism and technology integration are entwined. According to Judson (2006), technology is "not a mechanism that enables constructivism, it is a device best used at the moment when it enables students to gain deeper understanding" (Judson, 2006, pp. 592-593). Adams (2011) also claims that constructivism should not be seen as a prescription for technology-integrated pedagogical practice. Both these researchers further assert that teachers often concentrate

on their best use of digital technologies, ignoring the effect of their uses on student learning and their approaches of teaching. Given that Judson's and Adams's concerns were raised in different periods of time, one in the mid-2000s and other in the 2010s, it raises concerns regarding the reasons that make teachers focus on technology, rather their teaching approaches.

Kirschner and Davis (2003) claim that teachers should avoid treating technology as something special. Rather, it needs to be taken as a common and normal element that they need for teaching. On the other hand, Baker (2012) suggests that technology demands a pedagogical approach which puts the use of technology at the centre of the learning process, rather than as an outcome of learning. The literature discussed above suggests that technology-integrated pedagogical practice ought to be designed in ways that can give students opportunities for constructing knowledge themselves and learning through participation. This runs counter to teacher-centric pedagogies. Along with some theorisation of effective pedagogies with technologies, some researchers propose models for appropriate use of technologies in teaching.

ASSURE Model

Russel and Sorge (1994) outline a learner instructional model, named ASSURE. They argue that teachers need to analyse (A) learners, state (S) their instructional goals, select (S) appropriate technology, use (U) the technology with individuals or groups, which also requires (R) student participation in the knowledge construction, and finally evaluation (E) of their lessons. This model assumes that all teachers are able to appropriately use technologies in teaching, as the main concentration is on the teachers' actions. This model ignores factors involved with teachers' backgrounds, pedagogical thinking, and cultural habits in pedagogical contexts. Given this model was introduced in the early 1990s, it is arguable how much this model is applicable for designing teaching, considering factors related to both teachers' backgrounds and technological affordances.

Baran (2010), for example, investigated student teachers' use of interactive white boards (IWB) by using the ASSURE model. His study reveals that teachers and pre-service teachers found IWB useful for understanding and becoming familiar with the instructional design of pedagogical practice, although they experienced some hesitance at the beginning. The judgment regarding teachers' hesitance in this research was based on the findings that reflected teachers' competencies. An important aspect to consider is whether hesitance towards the use of IWB could be related to some other factors associated with teachers' backgrounds, such as cultural habits.

In Baran's research, the ASSURE model helped him understand teachers' ability to use IWBs without focusing on teachers' cultural norms and everyday habitual practices. His explanation derived using this model, however, did not provide sufficient information about how technological and pedagogical practices relate to teachers' specific cultures. Baran noted that his participants often used PowerPoint as the main means for delivering teaching, yet he did not examine possible reasons behind this specific technological and pedagogical practice. Baran argues that since PowerPoint is the easiest and most accessible tool to use through IWBs, this made teachers adopt PowerPoint more frequently than other applications. It is important to understand whether or not teachers' background or culture played a role in his participant teachers' actions. Either way, the ASSURE model leaves little room to explain teachers' backgrounds when understanding their use of technologies in teaching in this study.

SAMR Model

More recently, Puentedura (2012) introduced the SAMR model for explaining what happens in pedagogical practice with technologies. SAMR is an anagram to explain the levels of using technologies by teachers. These levels are substitution, augmentation, modification, and redefinition, divided into two continuums. The first two levels cover teachers' enhancement of their practice through substituting and augmenting specific technologies to replace other technologies or resources in teaching and learning. The two levels in the second continuum explain the levels of modification teachers make to their practice to better apply specific technologies. This leads to redefining what they can add to transform student learning (Puentedura, 2012). Mason (2014) suggests that this model allows teachers to rate their actions by examining their transformation in using specific technologies in relation to those previously used. However, SAMR is essentially about levels of adoption and integration of digital technologies into practice. It does not address pedagogical, dispositional or cultural factors that may affect teachers' adoption and integration. The model itself is blunt rather than fluid in its categories.

The literature and models discussed above anticipate a change in pedagogical practice when digital technologies are integrated into classroom learning. The studies discussed above draw attention to the need to better understand the potential for pedagogical practices. Implementation of constructivist learning approaches with technologies, as discussed above, is, however, a complex process due to various aspects associated with teachers and their ways of teaching.

The Complexity of Conceptualising Technology-integrated Pedagogies

Researchers argue that conceptualising technology-integrated pedagogical practice is a complex process. The complexity of understanding the relationship between technologies and pedagogical approaches was clearly evident in many studies. For example, Zisow (2000) in explaining about her own teaching in USA, she argues that the most challenging factor for integrating technology into pedagogical practice is matching the use of technology with teaching styles. This means that teachers often concentrate on the use of technology, rather than thinking about change that should be introduced to their pedagogical practices. The level of complexity could be greater in such cases where teaching is still considered as being traditional rote learning pedagogies. Pritchard (2007) provides examples of many teachers who employ a number of technological devices, which are basically the "drill and practice" type of learning, which do not necessarily make the best use of technologies' potential for facilitating learning. Jones (2003) argues that often PowerPoint is used by teachers with excessive content for the purpose of delivering the information to students in UK classrooms. However, he also asserts that PowerPoint can be a powerful tool, in which teachers can offer opportunities for student activities and use diagrams, graphics, tables, questions for making learning interactive.

Both Pritchard (2007) and Jones (2003) suggest that teachers use technologies in teacher-centric ways with limited student-centered focus in their teaching. This closely indicates how teachers' backgrounds can influence the way they use technolgoies in their teaching. Both Pritchard and Jones suggest that many teachers' pedagogical practices, prior to the advent of technologies, remained the same. Though these researchers did not explain much about how teachers' use of technolgoies was influenced by their backgrounds, their contentions imply that there could be some connections between how teachers' practices were formed and the influences of their backgrounds.

Ertmer (2005) found that teachers often explain their pedagogy with their use of computer technologies as enabling students' higher order thinking; yet, their everyday activities focused on using computers for drill and practice. Ertmer's argument regarding teachers' strong beliefs about the importance of using computers for enhancing students' higher order thinking, yet their practices were contradictory. Ertmer's article did not explain teachers' actual pedagogical practices based on specific findings. Judson (2006) also claims that teachers' practices are different from their perceptions of the best use of computer technologies in teaching. She notes that teachers often mention that they apply "student centered teaching" and "constructivist tenets" (p. 592), yet their actual practices demonstrate a different picture. Both Ertmer (2005) and Judson (2006) discussed the

incongruence between teachers' perception of using computer technologies and their actual pedagogical practice. However, none of these studies concentrated on understanding the reasons behind the lack of congruence between teachers' perceptions and pedagogical practice. Some potential reasons could be associated with teachers' own backgrounds or perhaps culture too.

Influence of Teachers' Background on Using Digital Technologies

A decade ago, Scott, Chovanec, and Young (1994) claimed that pedagogical practice is very likely to be linked to an individual's personal philosophy. They report that participants who believed in teaching as delivering knowledge were influenced by their own philosophies of delivering knowledge, and eventually their teaching role was seen as expert, which was inevitably translated into their practices. In Scott et al.'s study, participants were professors in a Canadian universtity context, and regardless of their range of experience in teaching, their practices remained teacher-centric due to the influence of their backgrounds. Given that this study is not about professors' use of technologies but their pedagogical strategies being influenced by their own backgrounds for a relatively long time, it clearly underpins the strong impact of background on people's practices in teaching. Grasha and Yangarber-Hicks (2000) argue that learning and teaching is part of an individual's personal make-up. This means how people learn or teach relies on individual experiences, their emotions, needs, beliefs, motives, and attitudes towards teaching and learning. In this study, regardless of participants being college lecturers, their use of computers and the Internet resources were influenced by their own backgrounds. Grasha and Yangarber-Hicks raise a major concern regarding the need for lecturers developing a conceptual rationale for using technologies. This particularly relates to how their use of technologies fits with their teaching philosopies. Their finding suggests that lecturers' backgrounds influence the way in which they embrace the philosophy of teaching, and accordingly determines how they use technologies in that regard. The findings by Grasha and Yangarber-Hicks (2000) were a decade ago, my study concerns to what extent teacher educators' use of digital technologies will be influenced by their own backgrounds in the context of my research.

Many researchers in relatively recent papers draw attention to teachers' backgrounds being influenced by how they use digital technologies in teaching. Sipilä (2010) in a Finnish school context, he argues that teachers' pedagogical practices demonstrated the same style regardless of their use of technologies. His findings suggest that teachers' pedagogy will not change because "ICT itself does not necessarily trigger change" (Sipilä, 2010, p. 4). Sipilä comments that teachers often used laptops in their teaching without necessarily bringing any change to their teaching styles. A few years later,

Perkins (2012) points to an example in India, where factual knowledge-based teaching and standardised examination oriented practice is being established, suggesting that the uptake of technology is unlikely to bring pedagogical change. Furthermore, Perkins (2012) explains that teachers' pedagogical dispositions encompass the traditional content-oriented teaching that was already established in teachers' pedagogies prior to the advent of technologies. In such contexts, technology does not seem to fit with constructivist learning. Therefore, collaborative and interactive based activities are sparingly employed, regardless of whether or not teachers use technologies in such contexts.

These researchers suggest that teachers' early teaching habits could play an important role when designing teaching with digital technologies. Although these researchers raise concerns regarding the way teachers used technologies in teaching, their emphasis was rather on understanding teachers' existing pedagogical practice without necessarily attempting to understand what had happened in teachers' backgrounds and past experiences. In other words, none of these studies focused on understanding how teachers' specific pedagogical philosophies formed or how their philosophies influenced their use of technologies in teaching.

At about the same period, Adams (2012) investigated college instructors' and students' use of PowerPoint in Canada. She argues that the use of PowerPoint in pedagogical practice often relates to student passivity. PowerPoint changes the classroom to "a cinematic space" (p. 147), where the teacher takes the role of orator or narrator of the PowerPoint and students passively watch and listen to what the teacher narrates. This links to traditional teaching methods, which mainly replace the black/white board. More recently, Kurt (2013) reveals that teachers' use of PowerPoint mostly supports their traditional teacher-directed teaching methods in a Turkish school. This suggests that a different technology, such as IWB, may have the same role when teachers use it in teaching, as reported by Baran (2010) in another Turkish school context. Bang and Luft (2013) investigated beginning teachers' use of technology over a five-year period in a USA school context. Their findings from interviews and observation data indicate that the most frequently used tool is PowerPoint, and it was used by teachers mostly for supporting traditional teaching methods. These arguments draw attention to the traditional pedagogical practice as being tied to teachers' use of technologies in their existing pedagogies.

As these studies' findings are generated from technology-rich contexts, such as the USA, UK, and Canada, it is essential to understand the reasons behind teachers' adoption of PowerPoint and the associated traditional teaching with this particular tool. None of these

studies explain participants' backgrounds and how these may have influenced the adoption of PowerPoint and how it is used in teaching. Apart from the literature examined above, the complexity of technology-integrated pedagogical practice was widely discussed in TPACK studies.

Technological, Pedagogical and Content Knowledge (TPACK)

The literature above suggests that often teachers' early established practices, beliefs, and pedagogical thinking may influence the way they use technologies in teaching. According to Koehler and Mishra (2008), technology introduces additional variables to the learning and teaching context that demand teachers change their practices, which eventually adds double complexity to their pedagogical approaches. This double complexity is represented in terms of marrying teachers' use of digital technologies with their pedagogical approaches. Mishra and Koehler (2006) proposed a framework named technological, pedagogical and content knowledge (TPACK) for integrating technology in pedagogical practice both in teacher education and professional learning in schools. The TPACK model was originally an expansion of the PCK (pedagogical content knowledge) model theorised by Shulman (1986). Shulman critiqued the way the two types of knowledge (content and pedagogy) were being treated in isolation from each other in teacher education programmes. Shulman (1986) argues that pre-service teachers should have a deep understanding of both areas of knowledge, as they are inter-related. Mishra and Koehler (2006) adopted this view and extended the argument with a new conceptualisation of teacher knowledge, which can be understood as three important domains for teacher knowledge, as illustrated in Figure 3.1.

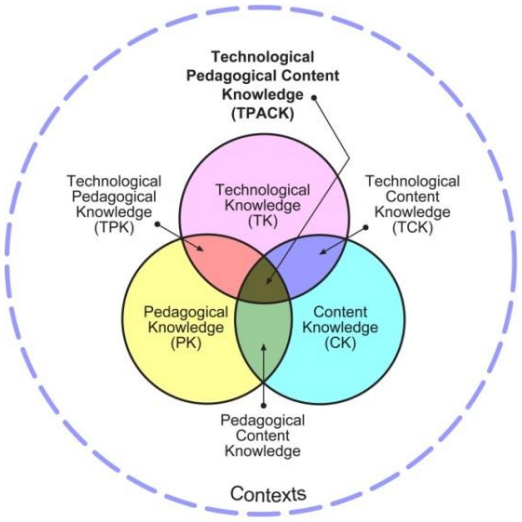


***Figure 3. 1.*Technological Pedagogical and Content Knowledge,**
Source: Mishra and Koehler (2006), http://tpack.org

Mishra and Koehler (2006) argue that since technology has become an important tenet of teaching and learning processes, and more particularly because of its potential for

improving learning/teaching process, teachers are required to understand the relationship between these three types of teacher knowledge content, pedagogy, and technology. Harris, Mishra, and Koehler (2009) believe that teachers often use digital technology as a transformative tool (a delivery tool) in their teaching of subject matter. This means that teachers use digital technologies merely to deliver content they want to teach. Koehler, Mishra, and Yahya (2007) suggest that this complexity arises due to teachers' lack of understanding of the relationships between content, pedagogy, and technology and the context within which they function. The literature here suggests that teachers require certain competencies in terms of connecting the three types of knowledge (knowing content (subject area), pedagogy (teaching knowledge) and technology (technology background).

A large body of literature discusses the TPACK framework and its application in teacher preparation contexts and teachers' classroom practices, as illustrated in Table 3.1 below.

Table 3. 1.TPACK research with teachers and pre-service teachers

Source	Context	Methodology	Key findings
(Abbitt, 2011a)	Pre-service teacher (USA)	Quantitative	Reported on the changing nature of the complex relationship between knowledge and self-efficacy beliefs.
(Abbitt, 2011b)	Pre-service teacher (USA)	Quantitative	Developed methods and instruments to assess TPACK understanding among pre-service teachers through a literature review.
(Chai, Ling Koh, Tsai, & Lee Wee Tan, 2011)	Measures of TPACK in teacher education (Singapore)	Quantitative	Found that pedagogical knowledge had a direct impact on TPACK at the beginning of the course and strengthened during the course.
(Ching Sing, Joyce Hwee Ling, & Chin-Chung, 2010)	Examines TPACK knowledge among pre-service teachers (Singapore)	Quantitative	Revealed that technological knowledge, pedagogical knowledge and content knowledge are all significant predictors of pre-service teachers' TPACK, with pedagogical knowledge having the largest impact.
(Harris & Hofer, 2011)	School teachers in USA	Qualitative	After a professional development examined teachers TPACK, a) Teachers selected various technologies more consciously, strategically, thoughtfully for student learning; and b) Teachers' instructional planning became more student-centred and focused-on student learning.

Source	Context	Methodology	Key findings
(Hyo-Jeong & Bosung, 2009)	Pre-service teachers in Singapore	Mixed-method	Found that participants had theoretical understanding of pedagogical knowledge; however, their lesson designs showed a mismatch among technology tools, content representations, and pedagogical strategies.
(Koh, Chai, & Tsai, 2010)	Pre-service teachers in Singapore	Quantitative	The participants did not make conceptual distinctions between TPACK constructs.
(Koh, Chai, & Tsai, 2013)	School teachers in Singapore	Quantitative	Showed that teachers perceived TPACK to be formulated from the direct effects of technological knowledge and pedagogical knowledge. They also perceived these knowledge sources as contributing to the development of technological pedagogical knowledge and technological content knowledge, which also contributed to their TPACK.
(Niess, 2005)	Pre-service teachers in USA	Qualitative	Five cases described the difficulties and successes of student teachers teaching with technology in developing their TPACK.
(Polly, 2011)	School teachers in USA	Qualitative	In a year-long professional development programme, two cases displayed evidence of understanding TPACK; however, their enacted pedagogies did not completely align with the pedagogies emphasised during professional development.
(Schmidt et al., 2009)	Pre-service teachers in Midwestern University	Quantitative	Suggested that the modification and/or deletion of 18 of the survey items, the survey is a reliable and valid instrument that will help educators design longitudinal studies to assess pre-service teachers' development of TPACK.
(Sahin, 2011)	School teachers in Turkey	Quantitative	Examined TPACK constructs survey and demonstrated the TPACK survey is a valid and reliable measure.
(Swan & Hofer, 2011)	School teachers in USA	Qualitative	Found that teachers demonstrated strong technological pedagogical knowledge (TPK) but a lack of technological content knowledge (TCK) in the design and implementation of the podcasting projects.

The TPACK studies above outline its contribution to understanding the complexity of technological and pedagogical practices in schooling contexts. However, none of these studies have addressed the influence of teachers' background or culture in relation to how teachers' understood or practised their theoretical understanding of TPACK. Some studies (Niess, 2005; Polly, 2011) have highlighted some reasons related to the difficulty of enacting TPACK in pedagogical practices, but they did not explain much about teachers' backgrounds when examining participants' TPACK. I want to know whether or not TPACK's theorisation leaves room for explaining teachers' background when investigating pedagogical practices through it. Though the TPACK diagram now situates the interconnecting ring within an area marked 'context', it is not specific about what might constitute this context (Figure 3.1). As 'context' is an outer layer, it is possible to assume that it relates to teachers' backgrounds. However, TPACK studies listed in Table 3.1 did not take teachers' backgrounds into account when explaining the idea of context. Moreover, most of these TPACK studies are based on quantitative measures in which researchers focused on examining teachers' understanding of TPACK constructs, rather than looking at their actual pedagogical practices.

In addition, TPACK's theoretical underpinning as a framework is well presented in many studies (Cox & Graham, 2009; Graham et al., 2009; Harris et al., 2009; Heaven, Clegg, & Maguire, 2006; Koehler & Mishra, 2009; Koehler & Mishra, 2005a, 2005b). These TPACK researchers have attempted defining and measuring its constructs without necessarily focusing on how its theorisation can link to explaining teachers' backgrounds and how that impacts on their use of digital technologies. Cox and Graham (2009) provide examples of teaching strategies using technology-rich activities. One of these centres on the use of PowerPoint by a geology professor. Another is about a history teacher's blog. Cox and Graham's findings demonstrate interactions between the use of technology, pedagogy and content to serve learning objectives. Cox and Graham's views had a profound effect on fostering pedagogical strategies through the TPACK framework. However, Cox and Graham recommend that the TPACK framework still needs to be understood within teachers' actual pedagogical practices in specific contexts.

Graham et al. (2009) investigated in-service teachers' confidence levels in four constructs of TPACK through a professional development programme using pre- and post-surveys in USA. The study revealed that TPACK knowledge increased teachers' confidence levels after the TPACK professional development programme. However, the study relied on quantitative measures that provide little information about the extent to which teachers' confidence levels increased based on their TPACK understanding and their experience of using digital technologies in teaching.

Despite the contribution of the TPACK framework, Koh et al. (2013) claim that even after many years of study, teachers' application of TPACK in teaching remains unclear. Through a professional development project, Pierson and Borthwick (2010) offer additional elements related to individual and organisational learning into the TPACK model for explaining teachers' conceptualisation of TPACK. They argue that teachers need to understand what works and in what contexts they can use various technologies when teaching. Jang (2010) investigated the use of IWB by school teachers in Taiwan through a qualitative approach. He argues that TPACK is not a distinct form of teacher knowledge; rather it is a body of knowledge, developed through teachers' pedagogical acts in classrooms. This finding implies that teachers' backgrounds and culture can play an important role when developing their use of digital technologies in teaching. Syh-Jong and Meng-Fang (2013) argue that teachers' background experiences can also influence the development of TPACK in teaching. This finding was generated through self-reported data, so refers to teachers' own perceptions.

In addition, in a professional development course on TPACK, Niess, van Zee, and Gillow-Wiles (2011) conclude that regardless of teachers' excitement in using digital technologies (in this case, spreadsheets in maths teaching), their prior beliefs about how specific content must be taught influenced both adoption of this specific digital technology and the implementation of it in their teaching. Niess et al., however, did not explain much about teachers' beliefs and how they influenced their use of spreadsheets. From a review of empirical literature on TPACK, Niess (2011) recommends that more investigation is needed to describe teachers' trajectories in developing "the knowledge, skills, and dispositions" (p. 300) for incorporating digital technologies in various subject areas and contexts. I am keen to understand how teacher educators' specific pedagogical practice related to their use of digital technologies is conceptualised, formed, or developed.

In summary, the literature highlights the notion that traditional teaching methods continue with the addition of technologies in many pedagogical contexts (Adams, 2012; Bang & Luft, 2013; Baran, 2010; Jones, 2003; Judson, 2006; Perkins, 2012; Pritchard, 2007; Sipilä, 2010; Zisow, 2000). That these studies were published at different times from the 2000s until the 2010s suggests that teachers' use of digital technologies does not necessarily bring change to their pedagogical practices. When synthesising these studies, what is still unclear is the reason for teachers adopting certain tools or forming certain pedagogical practices. In the context of my research, where digital technologies have only been introduced in the 2000s (refer Chapter Two), the way teacher educators use digital technologies may mirror issues similar to those examined by the above researchers. In

addition, this literature discussed above overly concentrates on attempting to understand what teachers can *do* with technologies in their teaching. However, it is yet not clear why teachers do what they do when teaching with various technologies.

Many researchers suggest that pedagogical practice with digital technologies must be more than just the transmission of knowledge through the teachers' use of these tools (Boshuizen & Wopereis, 2003; Brooks & Brooks, 1999; Gallant, 2000; Pritchard, 2007; Webb, 2013). These studies provide useful ideas for exploring teacher educators' conceptualised pedagogy in the Maldives, specifically in terms of how they teach, what tools they use, and the approaches they use for teaching. However, it must be noted that these studies pay very little attention to the impact culture has on teachers' use of digital technologies. Instead, they merely concentrate on teachers' and students' roles when using these tools, whilst overlooking the influence of teachers' culture and their backgrounds on their shaping of pedagogical practice with digital technologies.

TPACK studies also provide limited knowledge about teachers' backgrounds and culture when examining their use of digital technologies in their pedagogical contexts (Abbitt, 2011a, 2011b; Chai et al., 2011; Koh et al., 2013; Koh et al., 2010; Sahin, 2011; Schmidt et al., 2009). I need to know how far the TPACK model can be helpful to understand the connections between teachers' early background, culture, and their use of digital technologies in teacher educators' practices. This leads to a critical gap even in the TPACK model itself when understanding technological and pedagogical practices specifically in cultural contexts. The next section examines literature on digital technology adoption by teachers.

Technology Adoption Model (TAM)

A number of studies discuss teacher adoption of technologies for various reasons. Some of these studies argue that technology acceptance depends on the benefits that teachers gain through their use of technologies in teaching. This idea was originally introduced by Davis (1989) when explaining why people adopt certain technologies in their work. Davis (1989) proposed a model called Technology Acceptance Model (TAM). This model suggests that people accept technology for two reasons: perceived usefulness of technology and the perceived ease of technology use. Originally, the model was introduced to understand technology use in business contexts. However, this model has been used by many researchers for understanding technology-integrated pedagogies in various contexts of research. For example, Ajzen and Fishbein (1980) explain that there is a causal link between teachers' perceived benefits and their ease of technology use with respect to their attitudes and intentional teaching actions. Considering that this study is

now more than 20 years old, and with the rapid changes in digital technologies over the last two decades, it is arguable whether this finding persists. It is timely that this is examined.

About a decade ago, Yi and Hwang (2003) revealed that the adoption of web-based environments (such as the Blackboard system) by university students has demonstrated direct and indirect effects of perceived usefulness and perceived ease of use. These two beliefs have affected students' attitudes towards technology use, in particular with respect to the positive influence (enjoyment, goal oriented learning, and self-efficacy) that students experienced through using this system. TAM has been usefully applied in understanding students' use of technologies, but this finding also suggests that teachers may adopt technologies depending on perceived benefits. Hu, Clark, and Ma (2003) examine a training programme using the TAM for understanding teachers' implementation of PowerPoint presentations in classroom teaching. The model was tested for understanding teachers' perceived benefits and the ease PowerPoint brought to their teaching. The findings indicate that the model completely explains teachers' perceived benefits and the ease of using PowerPoint in their teacher-centric practices. However, the study did not place much emphasis on explaining the pedagogical strategies implemented by teachers or how their perceived benefits were related to their own reasons for selecting PowerPoint or how it links to teachers' backgrounds and cultures. Though the TAM's theorisation helps me understand my participants' adoption of tools based on the perceived benefits, it however, does not explain the connection between teachers' perceived benefits and their backgrounds and cultures.

Some researchers examine educators' use of technologies using TAM as a lens. Keengwe, Kidd, and Kyei-Blankson (2009) investigated higher education leaders' adoption of technologies which reveals that organisational support, leadership influences, training and development and resources in the workplace affected their adoption of technologies. Though participants of this study are not teachers, the findings could be useful for understanding some organisational issues associated with teacher educators' use of technologies at their workplace. Teo (2009) found that the TAM model was a good fit for understanding pre-service teachers' perceived benefits, attitudes towards use of technology, and computer-self-efficacy. The findings suggest that such factors appeared to have a direct effect upon their adoption of technologies and associated intentional actions. However, it provides limited understanding about how the perceived benefits linked with participants' backgrounds. Considering that TAM is well-implemented by researchers for explaining how teachers' use of digital technologies could be determined

by the perceived benefits, it suggests limited explanations about how to understand teachers' perceived benefits associating with their backgrounds and cultures.

Apart from TAM studies, some researchers examined teachers' use of digital technologies and their perceived benefits. Somekh (2008) argues that individuals learn to integrate technology when trying to fit these tools into existing pedagogical contexts. According to her, often this process takes place through experimentation with various technological tools in their existing pedagogy. Hence, teachers' adoption increases depending on the benefits they gain. Sprankle (2012) confirms that teachers often try to understand the usability of digital technology in their practices. However, their eventual adoption depends on the ease of tools and how they work for their practices. A year later, Howard (2013) suggests that teachers' decisions to integrate technology are influenced by the perceived value of technology in teaching and as a consequence of the benefits it has for their students' learning. Somekh, Sprankle, and Howard suggest that teachers' use of technologies could be determined by the benefits teachers will gain. However, these authors did not explain how teachers' perceived benefits in using digital technologies may be associated with certain pedagogical practices.

Lai and Chen (2011) report that teachers had adopted blogs because of the exciting experience and also depending on the benefits gained for their teaching and student learning. Although this study involved collecting data from a large number of teachers in schools, the actual practices of how they benefitted from using blogs is difficult to understand from the findings. Similarly, other studies through quantitative measures reveal that teachers' adoption of technology and their perceived benefits of it are associated with their experiences of using computers and the conditions that surround technology introduction in the teachers' workplaces (Aldunate & Nussbaum, 2013; Govender, 2012). Though these quantitative findings are useful to identify workplace influence on teachers' adoptions of digital technologies, but their findings discuss limited knowledge regarding the institutional influence on teachers' experiences of using technologies and how their perceived benefits be linked to their backgrounds. At about the same time, Wright (2014) investigated student teachers' use of digital technologies for their teaching through the lens of continuance theory. Wright generated her understanding through an analysis of Moodle posts on student teachers' experiences, rather than examining their actual using experiences in the context of practice. The finding thus leaves little room for explaining how participants' perceived benefits were linked to their backgrounds. More specifically, it is difficult to understand the relationships between teachers' adoption of specific tools, their first experience of using technologies, their perceived benefits, the institutional influences, and their pedagogical understandings

when continuing their use of adopted tools. Understanding the connections between these areas is crucially relevant for my context of research.

Considering that most of these studies (Aldunate & Nussbaum, 2013; Govender, 2012; Howard, 2013; Lai & Chen, 2011; Somekh, 2008; Sprankle, 2012; Wright, 2014) were published recently, and suggest that teachers' adoption of digital technologies can be associated with the perceived benefits, their findings can be useful to understand the benefits of using digital technologies perceived by teacher educators in my research context. These studies, however, provide little explanation about the connections between teachers' backgrounds and the benefits gained by using digital technologies in teaching. My research is keen to understand whether teachers' use of digital technologies and the benefits perceived have any link with their own backgrounds or cultural dispositions. In addition to teachers' reasons for selecting specific digital technologies, their institutional context seems to be affecting their ways of using digital technologies in pedagogical practice.

Institutional Context and Teachers' Use of Digital Technologies

A substantial body of research addresses the influence of the institutional context on teachers' digital technology use in their pedagogical practices. Reviewing the literature on technology integration in pedagogical practice is challenging not only because of its diversity across regions but also because of a multitude factors that could occur within a single context. Jones (2004) reviewed the literature pertaining to technology integration dating from 1993 to 2003. He concluded that a number of institutional factors such as teachers' confidence, competencies, resources, time, experience of technical problems, resistance to change, and negative perceptions about benefits can be barriers in teachers' use of technologies in their pedagogical practice. Cox, Cox, and Preston (1999) claim that previous international research on technology and education suggests that technology is not completely embedded in teachers' practices regardless of the investment into technology resources and its affordances. As this study is now 15 years old, it is essential to again examine whether or not the institutional context influences the teachers' choice and how they use digital technologies.

Institutional Technology Infrastructure and Organisational Culture

Technology infrastructure and support includes the quality of infrastructure, facilities, resources, and the way technology use is supported in the workplace. The adequacy of resources provided appears to directly affect teachers' use of digital technologies, whilst being indirectly influenced by the subject culture and assessment policy in an institution (Hew & Brush, 2007). Ertmer (1999) identifies that institutional infrastructure and

resources are external barriers to the integration of technologies by teachers. Bhanot and Fallows (2005) revealed that infrastructure and technical support are important elements that shape teachers' use of technologies in the workplace. These studies suggest that the quality of technology resources and how the technical support is provided at a workplace may influence the shaping of teachers' pedagogical practices. Some of these issues may be useful for understanding the quality of available technologies, how they are used by teacher educators, difficulties they experience, or technical support they need at their workplace and the influences of these on pedagogical practices with digital technologies.

Inan and Lowther (2010) argue that access to technological tools at the institution can enable teachers to use them frequently. Since their study is a quantitative analysis and also is not focused on pedagogical practices, it provides little information about the quality of resources and how teachers' uses of digital technologies were influenced by the infrastructure support at their workplace. Similarly, Gülbahar (2008) studied both teacher educators' and student teachers' use of computers in a Turkish university context. Her quantitative analysis revealed that organisational infrastructure, such as the quantity or quality of available resources, teacher educators' competencies, and professional development at their workplace influenced both teacher educators and student teachers use of computers. Moreover, she reports that computers were mostly used for preparation of examinations and course materials, researching for teaching using the Internet, and making presentations. Gülbahar's findings provide merely figures and percentages about participants' adoption of different facilities such as using the Internet or using computers for making presentations, rather than how her participants' pedagogical practices were influenced by the technology infrastructure. However, her findings can be useful to understand the available infrastructure and what early adoption of computers might look like when it comes to contexts with limited resources.

A year later, Chapman and Gaytan (2009) drawing from a questionnaire survey in a business teacher education context in USA, revealed that most teacher educators (who prepare teachers to teach business studies) were early adopters of technology with respect to their use of Word processing, email, computers, and projectors in their everyday professional practices. However, web-based video, web-based audio and online chats were almost never adopted. They suggest that the reason for teacher educators being early adopters of digital technologies could be associated with the institutional culture established in the workplace. However, it is worth noting that regardless of participants' range of teaching experiences and qualifications, they are identified as early adopters of computers. This links back to the importance of examining educators' backgrounds when understanding how they use digital technologies in teaching. These researchers suggest

some potential factors such as early adoption and how it may be related to teacher educators' age range and experiences of teaching at their workplace. Yet, neither Gülbahar (2009) nor Chapman and Gaytan (2009) have attempted to understand the teacher educators' institutional context and how it influenced the shaping of specific pedagogical practices with digital technologies. Moreover, considering that both studies have adopted quantitative research designs, they provide little explanation about how participants' actual use of computers was influenced by the institutional technology infrastructure.

In addition, a few years ago, Adamy and Heinecke (2005) argued that organisational culture could play an important role in teacher educators' adoption of digital technologies in a USA university context. These researchers revealed that teacher educators' practices are both negatively and positively affected by the availability of resources. Their study classified influential factors into three areas: allocation of technology resources, interaction with technology providers, and the influence of organisational culture on technology integration. Adamy and Heinecke suggest that organisational promotion of the use of technology and interaction with other colleagues play an important role in teachers' adoption and the ways in which technologies are used in university contexts. These researchers suggest that teachers' use of technologies ought to be understood within the organisational context of the institution. Adamy and Heinecke's findings are potentially useful for understanding the logic of practice (how things are done in an institution) that teacher educators adhere to in their workplace. Moreover, some issues highlighted in their findings regarding organisational culture, such as maintenance of hardware/software infrastructure and technology promotions by the administration, are potentially relevant to a small country context such as the Maldives, where paucity of resources (discussed in Chapter Two), are important considerations. Adamy and Heinecke, however, provide limited explanation of how teacher educators' use of digital technologies in teaching was shaped by the influence of the factors mentioned. Apart from technology infrastructure, the professional development designed for the staff could also influence teachers' ways of using digital technologies in an institutional context.

Professional Development (PD)

Professional development is a way of developing digital technology-related skills through workshops, conferences, and additional courses (Gallant, 2000). Guskey (1999) believes that running professional development programmes can improve the "professional knowledge, skills, and attitudes" (Guskey, 1999, p. 16) of teachers. This is probably a way of developing teachers' understanding of digital technology use and helping them to link their knowledge to their teaching approaches. Regardless of limited resources in the

Maldives (refer Chapter Two), making the best use of available resource is crucial. Levin and Wadmany (2008) argue that along with the access to digital technology affordances, teachers need to learn, develop, and conceptualise the use of digital technologies in teaching. Through a three-year longitudinal study, they investigated six teachers' professional learning regarding their conceptualisation of using digital technologies in teaching. Levin and Wadmany report that there were two developmental patterns: one related to human factors such as on-going professional support, personal self-organised learning; and the other related to a range of technical and cognitive support provided in their workplace in terms of helping them to continue with digital technologies. Similarly, Imants and van Veen (2010) comment that the nature of professional learning is interrelated with factors connected to individual, organisational, and on-site and off-site learning. These researchers draw attention to the importance of professional development and how thoughtfully it needs to be designed in order to enhance teachers' professional learning at their workplace.

Over a decade ago, researchers drew attention to how professional development must be designed. Hawley and Valli (2000) completely refuted the idea of occasionally designed professional learning. Though Hawley and Valli's study is not concerned with technology related professional learning, it suggests the importance of connecting professional learning with teachers' everyday practices. Similarly, Avalos (2000) argues that teachers' careful self-evaluation of their own practices and their active involvement in the programme over a long period is required. Avalos suggests, in developing countries, that the focus on pushing for change is crucial, including "a conceptual shift from teaching to learning, a focus on effective school results, and the implementation in many countries of systemic education reforms" (p. 457). The areas that Avalos noted and Hawley's and Valli's idea of how PD must be designed are perhaps pertinent for my research context due to the limited resources in the Maldives. A relatively recent study by Kramer and Benson (2013) examined a professional development programme for a year-long period, which was targeted at lecturers' use of digital technologies and pedagogical change in a university context. They suggested that the programme enabled lecturers to change the way they see and use digital technologies in classrooms. Kramer and Benson further recommend that the continuous evaluation of the programme is crucial in order to see its success in pedagogical contexts. However, their findings were generated through a self-reported survey, which is unlikely to provide a clear picture of how the professional development helped lecturers change their pedagogical practices and ways of using digital technologies.

When taking account of specific aspects that need to be considered when designing professional learning for pedagogical contexts, the literature noted several issues. First, professional development ought to be designed as a regular experience, rather than one-off sessions (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Gallant, 2000; Guskey, 2003). This means that occasional sessions are unlikely to be appropriate for enhancing technology-integrated pedagogical practices. Second, professional development must support teachers to be actively involved in the process of learning (Darling-Hammond et al., 2009; Guskey, 1999). Greene (2001) considers that active learning can occur through teachers' reflective role as they seek meanings out of their practices when they investigate their own questions, curiosities, and ambiguities in their everyday teaching. Moll (2001) in arguing that humans' thoughts are facilitated through interactions with others, he suggests that teachers' reflections and their thoughts will enable them to be more actively involved in the learning process. In essence, this may help them to better know how to use digital technologies in teaching. While, these researchers suggest the importance of teachers' active involvement in the professional learning, there is little acknowledgement of the role culture might play. Bearing in mind that the Maldives has a long history of rote learning pedagogy, the culture needs to be carefully considered.

Third, designing PD involves concentrating on the context and situation where teachers practise. Van Driel and Berry (2012) believe that professional development should address specific areas and certain instructional strategies in which teachers can reflect on what they teach. They draw attention to the importance of professional development as an experience that supports collaboration and collegial interaction within their context of practice. Through professional learning, teachers can collaborate and interact with colleagues to enhance their pedagogical practices. Timperley, Wilson, Barrar, and Fung (2007) argue that in the New Zealand context, teachers can effectively develop theoretical knowledge (such as TPACK for example) when the professional learning is closely connected with their contexts. Timperley (2008) further recognises the importance of considering factors such as socio-economic status, home, and community; factors related to complex teaching processes, such as teacher knowledge, beliefs about what is important, and how students learn; and factors related to professional learning such as workplace culture and the community they work with. These three aspects are pertinent to my research context in examining teacher educators' pedagogical practices in the Maldives.

In short, this section reviews ideas about the complexity of integrating digital technologies with pedagogical approaches in many contexts (such as USA, UK, Turkey,

Finland, and Canada). Specifically, the literature argues that the most appropriate approaches for technology-integrated pedagogy involve applying constructivist views of learning in teaching. However, many research findings indicate that teachers often rely on traditional teacher-centric pedagogies when using digital technology in their practice. My argument in this section is that the literature focuses on technology as an object, without necessarily attempting to understand its connection to teachers' use and their own backgrounds. These researchers can be considered as 'technicists' in their main research focus. Although the literature overall discussed the lack of change in teachers' pedagogical practices when incorporating technologies, it failed to provide explanations for the reasons of lack of change to teachers' pedagogies. It could be argued that researchers have ignored the reasons behind the lack of pedagogical change because of their over-concentration on technology, rather than understanding teachers' backgrounds and other influences at workplace culture.

Chapter Summary: Outlining the Gap(s)

The chapter has reviewed literature concerned with three main areas of my investigation: pedagogy, culture, and technology. The purpose of this literature is to understand teacher educators' shaping of their pedagogical and technological practices. The literature is divided into two main sections.

Firstly, it attempts to understand how teachers conceptualise pedagogical practice and the impact of culture on their shaping of specific pedagogies. More specifically, I aimed to understand the likely influence of Islamic culture on teachers' shaping of specific pedagogical practices.

Secondly, I examined teachers' technological and pedagogical practices and the complexity they experience when integrating technologies into their practices. More particularly, I examined theoretical understanding of models (such as ASSURE, SAMR, TPACK and TAM) and their potential relationship to my research context. The section presented an overview of institutional influence in terms of technology infrastructure and how professional learning is designed for enhancing pedagogical practices. The literature discussed in this chapter suggests a number of gaps: literature generally discussed school teachers' conceptualisation of pedagogies; discussion of pedagogy did not address specific cultural practice; investigations of technology use focused on technology, rather than teachers who use the technologies; and technology integration models discussed leave limited room for understanding cultural impact on technology use.

1) The literature generally discussed teachers' and teacher educators' conceptualisation of pedagogies, but none is related to the Maldivian context. More specifically the literature has given scant attention to how teacher educators' pedagogies may be understood in relation to their early backgrounds and culture. It is vital to understand how Maldivian teacher educators have conceptualised their pedagogies. This point is more specifically important since most teacher educators in my research have studied overseas (in a different culture from their context of practice), and how their own culture then influenced their shaping of specific pedagogical practice needs to be addressed.
2) Researchers who investigated cultural influences on pedagogy focused on general influences without addressing specific cultural practices. However, it is essential to understand whether there is a specific cultural influence on the shaping of pedagogies.
3) Researchers who investigated technology use among teachers focused overly on technology, rather than teachers who use the technologies. Thus, the review explains that limited knowledge exists about how culture or teachers' backgrounds could be understood in relation to their use of technologies.
4) Further, technology integration models proposed by researchers, such as TAM, ASSURE, SAMR, and TPACK, leave limited room for understanding culture and its impact on technology use by teachers. The literature in this sense suggests that there is a critical gap for understanding the role of culture and how teachers use technologies in their pedagogies.

Apart from these gaps, the literature consistently raised concerns regarding teachers' lack of awareness of pedagogical change when integrating digital technologies. I argue that changes in pedagogical practice are not evident may not only be a consequence of lack of knowledge about technology integration, but it could also be associated with factors related to teachers' own pedagogical understanding as it is influenced by cultural aspects. The literature pertaining to technology integration research overlooks these aspects of teachers' social and cultural givens when explaining their pedagogies with digital technologies. Thus, understanding teachers' culture becomes essential due to the strong connection between the conceptualisation of pedagogy and culture, as discussed in the literature. In other words, people's pedagogy cannot be understood without understanding relationships between their pedagogical practice and their cultural practices. These include early learning experiences and traditional practices in specific cultures. In this regard, investigating teachers' culture comes first in order to understand what makes people adhere to certain pedagogical approaches when integrating digital technologies.

The literature in this sense seems to display a critical gap in the field of this research as illustrated in the Figure 3.2. My research thus focuses on building the connection between the three important domains of technology integration: pedagogy, culture, and technology.

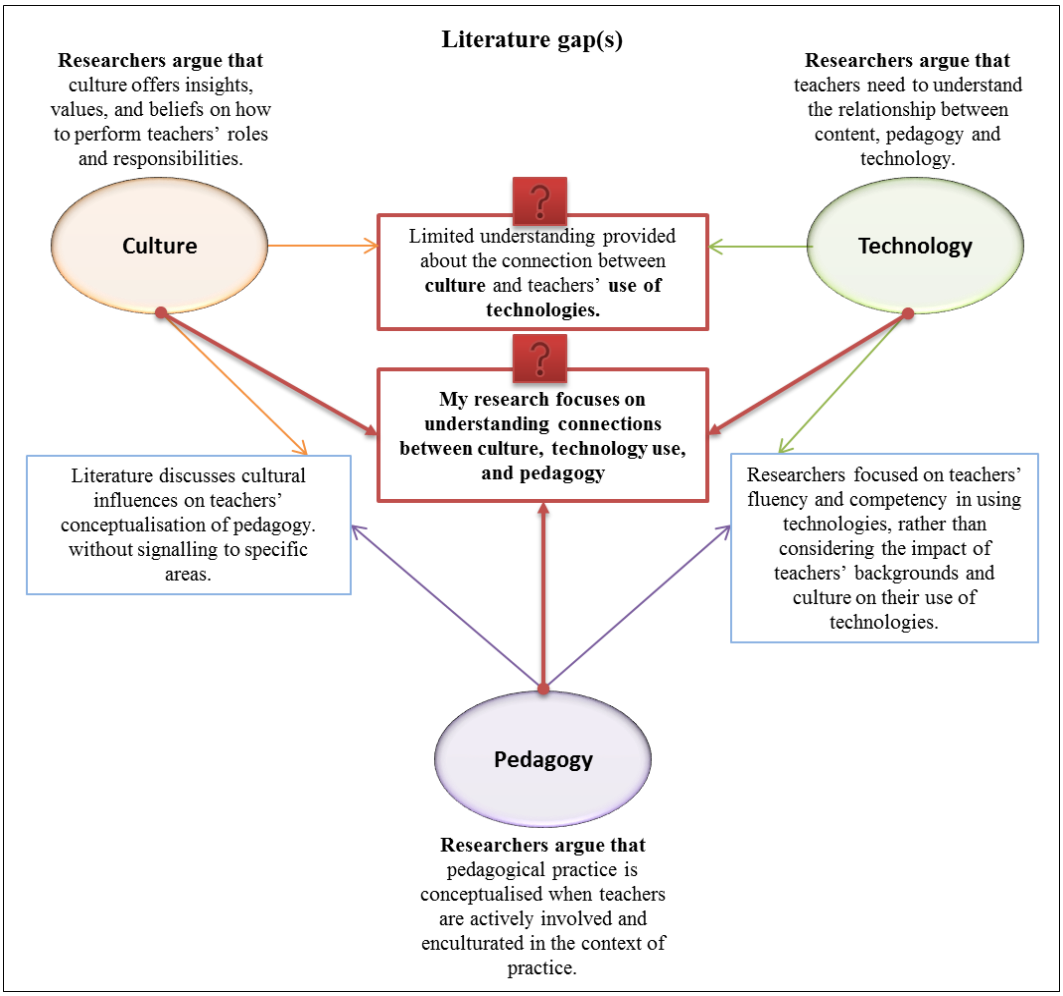


***Figure 3. 2*. Literature gap(s)**

In order to address the gap(s) outlined above, the study aims to explore teacher educators' pedagogical and technological practice in the Maldivian cultural context. Thus, my overarching question is: *How do teacher educators' pedagogical and technological practices form in the Maldives?* Sub-questions arising from this are:

1) What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?
2) How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?
3) How do teacher educators form their pedagogical and technological practice?

The next chapter will explain the methodological approach to investigating this area and answering these research questions.

Chapter Four: Methodological Framework

The chapter outlines the underpinning philosophy, methodology, and my positioning in the research. The chapter is divided into three sections. The first section explains the philosophy in my ontological and epistemological stances and how these stances guided me towards the interpretive paradigm. The second section describes the suitability of an ethnographic methodology for understanding teacher educators' technological and pedagogical practices. It also elaborates my researcher's position and signals some potential issues in undertaking my research. The section also explains my analytical lens, the notion of habitus, and its usefulness for exploring teacher educators' experiences and practices. The third section justifies selection of specific methods and their suitability for understanding teacher educators' pedagogical practices.

Overview of Research Paradigms

Explaining the research methodology provides clarity about a researcher's philosophical and theoretical perspectives about research design (Creswell, 2007). In my research, it involves being clear about my thinking and orientation to ontology, epistemology, paradigm, and methodology in order to understand teacher educators' pedagogical practices. In order to explain these, it is essential to provide an overview of the nature of social science research.

The debate about positivist versus post-positivist has created two distinct paradigms in social science research. The main argument in this debate pertains to philosophical issues associated with the nature of research and its outcomes (Bryman, 1984). The positivist view is centred on understanding humans' behaviour through a scientific hypothesised description and its generalisation, whereas a post-positivist view is that humans' reality is pluralist and therefore, it cannot be simply generalised (Cohen, Manion, & Morrison, 2011). The positivist ideal therefore, claims that a researcher's role is to provide the "clearest possible ideal of knowledge" (Cohen et al., 2011, p. 7) about the research phenomenon. In this sense, a researcher embraces a belief of formulating one single understanding and then making generalisations from it. In my research, I am neither seeking an objective reality nor a generalisation of my findings. Rather I am keen to explore whatever experiences my participants encounter in the context of their professional lives and explain them within their context of the education system in the Maldives. In other words, there will be multiple realities because individuals and their experiences in cultural contexts are different.

In addition, positivist assumptions claim that knowledge is 'out there' and it can be directly observed in individuals' lives. My philosophy, on the other hand, is that understanding the realities of humans' lives (teacher educators' professional lives) cannot be directly understood simply through what I see or observe. In particular, teacher educators' everyday experiences, thoughts, or their reasons for specific actions in their professional lives cannot be understood merely through my own views. It is unwise to think that I can possibly articulate what is going on in their professional lives by depending on a hypothesis or through a pre-determined idea of my own.

Considering specific philosophies and selecting a suitable approach for research is essential in researching. Bartezzaghi (2007) argues researching is not about which approach is better than others, rather it is about how to select the most appropriate design for specific research. Howe (2003) claims that the merit of research is not determined by a particular approach. Each approach in social science has its weaknesses and strengths (Salomon, 1991). In other words, a researcher must justify the selection of an approach on the basis of beliefs, assumptions, values and ethical constraints (Conrad & Serlin, 2011).

Views about the nature of knowledge and what constitutes a reality are varied. Research designs which focus on inquiring about meanings individuals or groups have in their specific context is defined as qualitative research (Creswell, 2007). For instance, if a researcher wishes to explore how experiences are viewed by an individual or a group of people, quantitative methods will not be nuanced enough. Berg and Lune (2012) argue that "certain experiences cannot be expressed by numbers" (p. 3). Therefore, to understand the experiences of people, researchers need to use methodological approaches that would enable them to explore these experiences. Hence, meanings given to events and experiences are imperative to certain research phenomena. An interpretive frame argues people's lives can be understood through their own perspectives. This resonates with my own purpose, since I am seeking to understand my participants' experiences of their social and professional world of teacher education in the Maldives. Denzin and Lincoln (2000) suggest that qualitative research is "a situated activity" locating researchers in the researched natural settings. Thus, it makes sense that a qualitative research methodology is best suited for the objectives of my research.

To recap, my research aim is to explore teacher educators' use of digital technologies within their pedagogical practices in the Maldives. My overarching question is, therefore, *how do teacher educators' pedagogical and technological practices form in the Maldives?* Understanding the nature of the formation requires exploring the influences of

socio-cultural learning norms, in relation to their culture and the institutional context, on participant teacher educators' formed practices. These two entities of their social and professional world are likely to provide an understanding of how their pedagogical practice is shaped. A methodological approach which enables me to explore how things happen and how they are understood is therefore needed.

This chapter outlines my research stances and my choice of an ethnographic methodology to address my research interests. A good research design requires making the researcher's beliefs and worldviews explicit because this has practical implications for designing and conducting research (Creswell, 2007). My philosophical and methodological worldviews are illustrated in Figure 4.1 and are explained in the following sections.

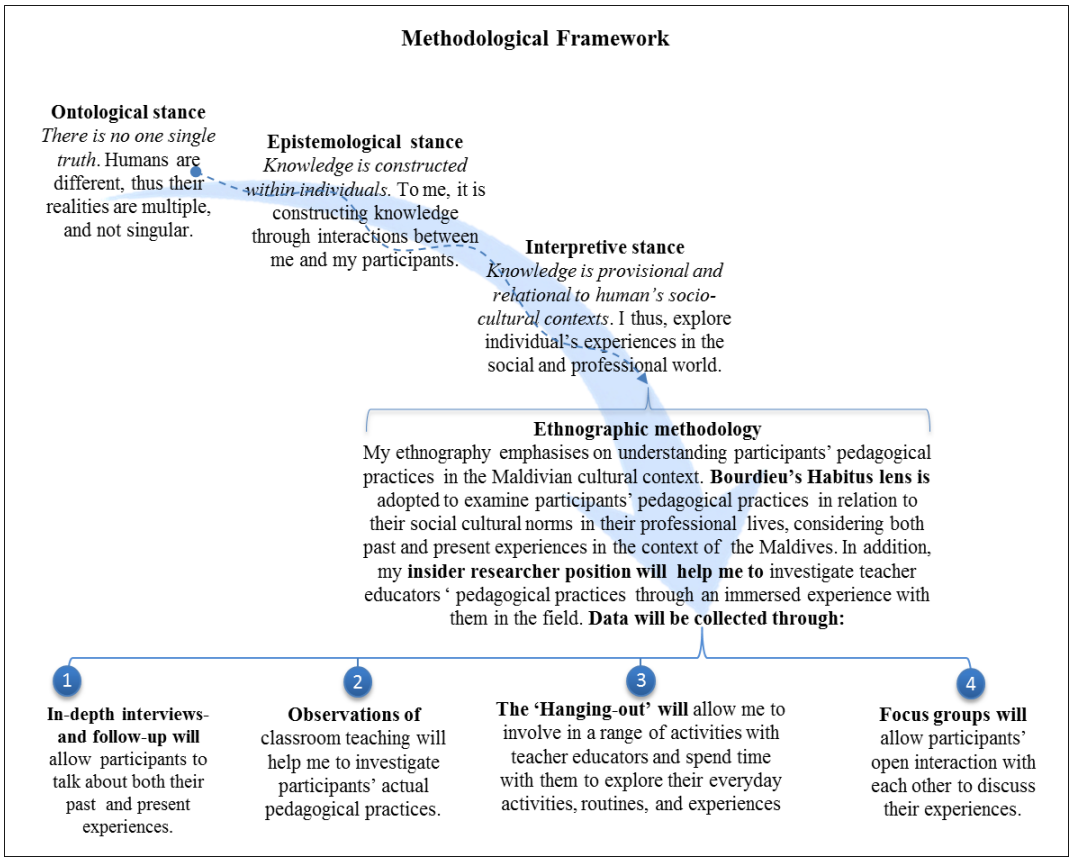


***Figure 4.1*. Methodological framework**

The first section outlines and justifies my philosophical position about the nature of human reality (ontology) and the theory of knowledge (epistemology), and how these guided me towards the interpretive paradigm.

Philosophical Perspectives

Undertaking research initially involves decisions that researchers make in order to determine suitable methodologies for research (Saldana, 2011). A researcher's view of

the world in terms of knowing and creating knowledge have an effect on the entire research process, which includes data generating, analysing, and interpreting the findings (Merriam, 1998).

Ontological Stance

As outlined in Figure 4.1, conducting research starts with the researcher's ontology. Ontology is a set of beliefs about the truth. It considers the question, When is something real? (Heigham & Croker, 2009), referring to the views and meanings people make regarding how things work in their everyday experiences in their social world (Glesne, 2011). My ontological stance is that human nature has 'multiple realities' which are 'socially defined' (Creswell, 2007) in relation to their context. For me, teacher educators' views could be different from each other depending on their lived reality; hence the meaning they make out of these experiences varies. Thus, two different people may interpret an incident differently, even if they have both experienced it. In the case of my research, although my participants work in the same workplace, carrying out their everyday professional activities perhaps in a similar way, I need to be aware that their interpretations of their lived realities are likely to be understood differently. Thus, for me, constructing knowledge focuses on exploring each individual participant's reality in terms of their formed pedagogical practices in this specific research context, without expecting them to believe the same things or do similar things in similar ways.

In addition, understanding the nature of the reality in my participants' social world also meant looking at the multifaceted nature of contexts. Dey (2003) argues:

> Contexts are important as a means of situating action, and of grasping its wider social and historical import. This can require detailed descriptions of the social setting within which action occurs; the relevant social contexts may be a group, organization, institution, culture or society; the time frame within which action takes place; the spatial context; the network of social relationships, and so on. (Dey, 2003, p. 33)

In order to better understand something of the social realities of teacher educators' (their social world) in the Maldives, I seek to understand them as a group of colleagues, how they work together, whether they experience similar or different professional experiences, and their interaction with each other and with the available facilities in their institution. Moreover, I intend to explore their lived realties including how they interpret their own early learning experiences, schooling, and experiences as educators through their careers, and particularly as teacher educators using various technologies and how these then influence their shaping of specific pedagogical practices, and how the Maldives as a culture or a society influence teacher educators' pedagogical practice. My investigation

thus will involve interpreting teacher educators' personal, collegial, organisational, cultural, and societal experiences in light of Bourdieu's (1977) notion of habitus as a lens.

I believe people often have a tendency to change their dispositions. Individual people's thinking, attitudes, and behaviours may change, depending upon the way they live and within the contextual orientations where they are situated. In my research, I am assuming that teacher educators' professional experiences will change throughout the shaping of their pedagogical practices. For example, changes could occur because of: (a) the advent of technologies at their workplace, (b) through their gaining benefits or facing challenges when using the available technologies in their teaching, or (c) organisational rules and regulations associated with the use of technologies in their workplace. I believe understanding these potential factors impacting on the context of each individual's professional and social experiences, is important to my research. Through this research, I can begin to articulate an in-depth understanding of how teacher educators' pedagogical practices and their use of digital technologies are shaped.

Epistemological Stance

The second philosophical stance involves my epistemology or how I decide to create knowledge in my research as it is also guided by my ontological stance, as shown in Figure 4.1. Epistemology is the theory of knowing and creating knowledge about a phenomenon (Sprague, 2010). It relates to basic questions such as how knowledge is acquired, the nature of understanding, or how we know what we know (Heigham & Croker, 2009). Epistemology also involves interaction between researchers and researched in which knowledge is created between them (Lincoln, Lynham, & Guba, 2011). These considerations of epistemology in research shape methodologies and justify how the research questions are answered (Glesne, 2011).

My epistemological standpoint is that knowledge is existential (nondeterministic) and constructivist (Stake, 2010).This means that creating knowledge for my research would take place through our (the researcher and participants) interactions with each other in their teacher education context. As I believe individuals' views and experiences are different depending upon how they understand their lives and pedagogical experiences, my epistemology is thus the subjective data that participants share with me. As a researcher, I see myself as a key instrument of the research process, as suggested by Creswell (2007). However, that does not lessen participants' involvement in this knowledge making process. This means that although my own knowledge is considered as part of understanding what my participants share, their views and experiences will be placed at the centre of the research. As suggested by Mills (1959), I consider the

participants' experiences as they explain them to me, as being key players in the knowledge building process of my research. For example, though I have interview questions to ask about their experiences, these questions are cues for my participants to interpret and talk about in relation to their professional experiences and knowledge. The interview questions, therefore, could be modified as I continue to explore more about teacher educators' experiences in their teacher education context in the Maldives. Lincoln et al. (2011) argue that knowledge is "transactional, subjectivist and co-created" (p. 100). This means that knowledge is constructed within individuals, rather than something outside of the individual (Saldana, 2011). The knowledge I gain therefore will result from understanding what I have researched within a familiar context and which participants help me explore. Precisely, this means that whatever the meanings they make out of their experiences are important data for me to examine.

My epistemological and ontological stance guided me towards a specific research paradigm, the interpretive stance. The following section justifies this positioning.

Interpretive Stance

The ontological and the epistemological considerations upheld by the researcher affect the research processes as shown in Figure 4.1. Jabareen (2009) argues that these are interconnected in this process with links between my view about the nature of knowledge, and my view of the reality my participants share about their pedagogical practices. The interpretive paradigm emphasises exploring an individual's experiences in their social world. This includes understanding their perspectives, their interpretations, and meanings (Dey, 1993; Patton, 2002). For me, it is important to understand my participants' individual experiences and practices associated with the shaping of their pedagogical practices in the specific teacher education context of the Maldives.

Cohen, Manion, and Morrison (2007) argue that the central endeavour of this paradigm is researchers' understanding the subjective world of human experiences. This means getting inside the person through interviews and observations. Knowledge also involves the culture or cultures where participants are situated. Thus, individuals' experiences have to be understood in relation to the culture they live in and through interactions between those connecting inside it (Crotty, 1998). This basically links to my intent to explore the participants' social world on an individual basis through Bourdieu's (1977) notion of habitus. This includes understanding the field (where they are, how they live, who they interact with), the logic of practice (rules and regulation that are practised in the institutes), and the capital(s) (social, cultural, economic), and how each of these generic elements influences participants' individual pedagogical practices and their habitual

practices of embedding technologies. It is entirely likely that the individuals' worlds will vary through the meanings they make out of their experiences.

Researchers operating in the interpretive paradigm start with understanding individual experiences to build their theories from what data yields (Cohen et al., 2007). My research does not attempt to understand the best practice of teacher educators' pedagogical practices or the common understanding of this teacher education practice that has already been identified by other researchers or theories. I seek to understand their interpretations of their experiences. I do not intend to judge the quality of their pedagogical practices. In other words, a qualitative interpretive paradigm offers me the opportunity to make sense of what is. This 'what is' is understanding teacher educators' existing practices and pedagogical reasons for using technology within their professional context. This is no grand narrative, but an attempt to understand Maldivian teacher educators' pedagogies so that my research can better support future technology integration in pedagogical practices in the Maldives.

The following section discusses the need for an ethnographic methodology as an approach to collect data about teacher educators' pedagogical practices in the Maldivian context.

Ethnographic Methodology

My ontological, epistemological and interpretive philosophies guided me towards my research design of ethnographic methodology as seen in Figure 4.1. Ethnography is often described as a standalone research methodology, rooted in the fields of anthropology and sociology (Gobo, 2011). However, there is disagreement about the meaning of ethnography. Walford (2009) argues that there are two extreme views about the term ethnography. On one hand, it is considered as merely a synonym of "all forms of qualitative research", on the other hand, it is defined as "what anthropologists do" in their fieldwork (Walford, 2009, p. 271). Hammersley and Atkinson (1983) earlier argued that though ethnography has been defined variously as cultural knowledge elicitation, detailed investigations, holistic analysis of societies, or descriptive forms of story-telling, it is simply a social research method, which encompasses a wide range of data generation sources for understanding the area of investigation.

Traditionally, ethnography was a fieldwork exploration in which the researcher spent a prolonged time in an ethnographic site, to observe and be immersed within the field to understand the area of investigation (Wolcott, 1987). He further argues that time alone is not enough for producing ethnographic data; rather the quality of the ethnography lies in

a researcher's experience for understanding what he/she aspires to know. Hammersley and Atkinson (2007) claim that ethnography involves researcher's participation in fieldwork for "watching what happens, listening to what is a said, and/or asking questions" (p. 3). Time alone is not a designator of ethnography. It is the quality of first, the data, and then second the analysis, that makes for robust ethnography. Lewis and Russell (2011) argue that ethnographic methodology focuses on generating an in-depth understanding, "being there" to experience the aspects of socio-cultural life of participants (p. 400). This is what ethnography means in my research; being there in the teacher education context of the Maldives and being involved with my participants for understanding their practices and experiences during the allocated period of time for my data collection.

A research methodology provides both explanations about and descriptions of the methods used, and justifies the choices of approach (Conrad & Serlin, 2011). The following section describes the characteristics of my ethnographic methodology and its relevance for my research aims.

Characteristics of my Ethnographic Methodology

In order to provide explicit explanations and justifications of the suitability of ethnographic methodology, its three characteristics are discussed in relation to my research aims.

Seeking an Understanding of a Cultural Context

Ethnography is an approach suitable for exploring the nature of data for answering my research questions, because it involves understanding of culture(s) (Denzin, 2000; Fetterman, 2010; Goodall, 2003; Wolcott, 1987). Wolcott (1987) argues that ethnographic research describes cultural entities in individuals' actions and practices. I intend focusing on understanding and interpreting participants' views, experiences, and practices in their own cultural milieus. Choosing ethnography to understand the culture and seeking to make sense of participants' social world is appropriate (Denzin, 2000). In other words, it is a way of studying and speaking about people's cultures (Goodall, 2003). Ethnography is an essential approach, allowing me to explore Maldivian cultural norms and understanding how they may influence the shaping of teacher educators' pedagogy.

Ethnographic design is important for understanding the individual's voice regarding their practices as they experience them in their cultural context. Fetterman (2010) states:

> Ethnography is about telling a credible, rigorous, and authentic story… [which] gives [the] voice of people in their own local context, typically relying on verbatim

> quotations and a 'thick' description[s] of event[s]... The ethnographer adopts a cultural lens to interpret observed behaviour, ensuring that the behaviours are placed in a culturally relevant and meaningful context. (Fetterman, 2010, p. 1)

Taking the institution as a workplace culture, my research involves understanding teacher educators' everyday habitual practices and how they interpret those experiences in their workplace context. Bloor and Wood (2006) suggest that an ethnographic epistemology positions individuals' practices as relational. I, therefore, endeavour to understand the multiple realities of my participants' experiences in this specific culture. My research looks at each individual participant separately, and seeks to understand the collective cultural influences on teacher educators' shaping of pedagogical practices. I assume that sharing my participant teacher educators' cultural backgrounds with me will enable me to generate a better understanding of how their shaping of pedagogical practice is formed in the Maldivian cultural context. In addition, adopting Bourdieu's (1977) notion of habitus which is a cultural lens, that requires me to design my research approach so that I can properly understand my participants' pedagogical practices, and what influences them.

Seeking an In-depth Understanding of an Institutional Milieu

According to Hammersley and Atkinson (1995), ethnography emphasises enhancing the ground understanding of participants' context. My participants as teacher educators in an institution, I believe, their workplace as context can influence their formation of specific practices. Charmaz (2006) defines ethnography as understanding about a "particular group" (teacher educators) and thus entails sustained participation and observation in "their milieu" (workplace), "community" (professional interaction with other colleagues), or "social world" (professional social world) (Charmaz, 2006, p. 21). The essence of my understanding therefore concentrates on exploring both the pedagogical context (what influences their shaping of pedagogy) and technological context (what influences their choice of specific digital technologies) in order to generate a holistic understanding about my participants' lived experiences (Serrant-Green, 2007) in their workplace context. These views closely highlight the prevailing elements that I seek to understand about teacher educators' pedagogical practices. The reason for understanding my participants' institutional context is important because people's actions and thoughts cannot be understood unless these are explored within the context they occur (Gillham, 2010). Thus, it is essential to understand what teacher educators do, uncover reasons behind their specific pedagogies, their choice of digital technological tools, and also to make sense of the reasons behind their selection of specific digital technologies in their professional practices.

Seeking an Immersed Experience in 'the same boat'

Since my research involves understanding cultural impact, I require an approach that allows me to immerse myself in the research site and with my participants. Van Maanen (2011) argues that studying cultural influence is a moral and intellectual responsibility to represent the complexity of that specific culture in the writing of ethnography. This means, immersing myself in the culture and becoming intimately involved with my participants' professional context in order to explicitly understand the complex issues associated with their shaping of pedagogies in the Maldives. Reeves, Kuper, and Hodges (2008) argue that ethnographers' engagement and involvement with the natural setting under investigation is necessary for exploring in-depth understandings. I preferred to explore the same experience in 'the same boat' with my participant teacher educators, and learn about the everyday incidents, events, and scenarios associated with their workplace context. My experience therefore, is likely to be inherently different from a researcher who visits participants for conducting interviews or observing a classroom teaching every now and then. Berg and Lune (2012) suggest that the qualitative descriptions of how things are happening in the context can be understood when the researcher him/herself is experiencing it. Ethnography in that sense, allows me to be intimately involved with my participants. Hesse-Biber and Leavy (2011) define ethnographers are researchers who "go inside" stories through the 'hanging out' approach in order to provide "thick descriptions" (Geertz, 1973, p. 10) about individuals' social context.

Hammersley and Atkinson (2007) explain that ethnographers seek understanding of individuals' accounts and actions through a range of data collection methods. In my research, various data collection methods will be employed such as interviews, observations, and focus groups for the purpose of generating the data about teacher educators' own interpretations of their experiences and practices. Further, my hanging out activities and writing field notes and reflections would complement the data gathered directly from teacher educators via other data collection methods. Bloor and Wood (2006) suggest that an ethnographer needs to think as one from the community where the research is carried out. This is pertinent for my research, for I come from the same context. It will be reasonably easy to become part of teacher educators' everyday lived experiences in order to explore both the cultural and contextual influences on their shaping of pedagogical practices.

Creswell (2007) argues that in order to explore what participants say and experience in the actual context, a qualitative researcher tries "to get as close as possible to the participants being studied" (p.18). This should be a reasonably comfortable experience for me. I believe being involved with them in their everyday activities will allow me to

learn about their experience, the incidents, and the events associated with their pedagogical practice. Wood (1986) asserts that an ethnographer aims "to represent the reality studies in all its various layers of social meanings in its full richness" (p.5). Thus, for me, whatever meanings, experiences, beliefs or interpretations they share will be valued as data for understanding teacher educators' pedagogical practices in the Maldives. Moreover, the experiences that I may encounter by being involved with them can also complement what teacher educators share with me. My insider position thus, would assist me to immerse myself as a researcher seeking to understand teacher educators' pedagogical practices in the context of this research. The next section explains my insider position and potential issues that may emerge during my research process.

Insider Researcher Position

Insider-researchers are known as people who conduct research about home communities, such as their own profession, workplace, society, and culture (Innes, 2009). Jenkins (2000) defines 'insider' as a member of an 'in-group' with access to its past and present, who shares experiences with the research participants, or as Griffith (1998) suggests, those who have a lived familiarity. This can lead to a feeling of sameness between the researcher and participants. Innes (2009) argues that an insider position enables the researcher to understand complex issues and contextual understanding, which helps to expand preconceived notions to scholarly knowledge. Based on this understanding, my insider status can be described as having similar professional sameness and lived experiences to my research participants. Working as a teacher educator in the same institution in which my research will be conducted, places me as an insider. This means that professionals who work at this institution are my previous colleagues, those volunteering as my research participants.

Conducting insider research can be both beneficial and challenging for researchers. As an insider researcher I am privileged in understanding my potential participants' professional everyday activities, and their roles and duties at their workplace because of my previous experiences in the same profession. This is not unusual. Gunter (2004) explains that people come to research with backgrounds that shape what they are interested in. Richardson (1997) was one of the first who explored the subjective nature of research. Background knowledge can be considered as insider knowledge (Kanuha, 2000), and can be about the research context, which includes knowledge, insights, and lived experiences of every-day life (Coghlan, 2007; Roth, Shani, & Leary, 2007). Burns, Fenwick, Schmied, and Sheehan (2012) acknowledged this as professional insider knowledge. However, prior knowledge can be a disadvantage as I may face many unanticipated

challenges in terms of separating my prior understanding about my participants and managing issues associated with them from my experiences throughout my research journey.

There are a number of challenges insider-researchers might experience. These include researchers being over-involved (van Heugten, 2004), engaging in over familiarity (DeLyser, 2001), having over-rapport (Miller, 1952), or even going native (Kanuha, 2000). All these can be both challenging and beneficial. For example, accessing data with the research participants might be easier as an insider (Gardiner & Engler, 2012). Hewitt-Taylor (2002) acknowledged that being an insider enabled her to understand many issues related to the context and the phenomenon in a shorter time period than had she been unfamiliar with the context under scrutiny.

Over-familiarity may become an issue for me. DeLyser (2001) for example, claims that insider-researchers may face difficulties during the research process because of over-familiarity with the research context and participants. Kim (2011) argues that individual researchers experience complicated dilemmas and challenges depending upon the nature of research process. In addition, Takeda (2012) argues that the challenges and issues are mostly generated through a researcher's positioning in the research process. Due to the nature of my ethnographic design, my involvement with my participants may raise these challenges. Thus, I may need to be mindful of these issues during the process of my ethnography.

I will need to be diligently reflexive throughout my data gathering process in order to separate my own background knowledge and the knowledge which will be created between me (the researcher) and participants (the researched). Lincoln et al. (2011) argue that reflexivity is the process by which the researcher becomes conscious as an inquirer and a participant. It therefore, enables the researcher to become reflexive with "the multiple identities that represent the fluid self in the research setting" (Lincoln et al., 2011, p. 124). Thus, the researcher's role in generating knowledge through various data collection methods requires trustworthiness in the research process (Janesick, 2000).

Bourdieu's (1977) habitus, which is centred on cultural practices, is my chosen analytic lens. The following section explains this analytical lens, and how it is suitable for understanding teacher educators' pedagogical practices in the Maldives.

Bourdieu's Habitus

As seen in Figure 4.1, my ethnographic approach is linked with Bourdieu's habitus as the lens to examine teacher educators' pedagogical practices. Numerous researchers adopt

Bourdieu's notion of habitus as a lens through which they analyse how specific practice is being formed (Belland, 2009; Edgington, 2013; Emirbayer & Johnson, 2008; Joas & Knöbl, 2011; Roland, 2002; Schmidt, 1997). Since people's practices are generated both individually and collectively from culture, embracing this lens will help me to provide "thick descriptions" (Geertz, 1973, p. 10) and a holistic understanding (Serrant-Green, 2007) about the social professional world of my participants. Sterne (2003) asserts Bourdieu's concept of habitus would enable me to understand interconnectedness of many components: teacher educators, digital technologies, institutional context, and culture aspects in individuals' practices. With this intention, my ethnographic methodology is linked with Bourdieu's habitus for exploring important elements and entities associated with teacher educators' pedagogical and technological practices in the Maldives. The following diagram (Figure 4.2) illustrates the generic elements I seek to understand through this lens.

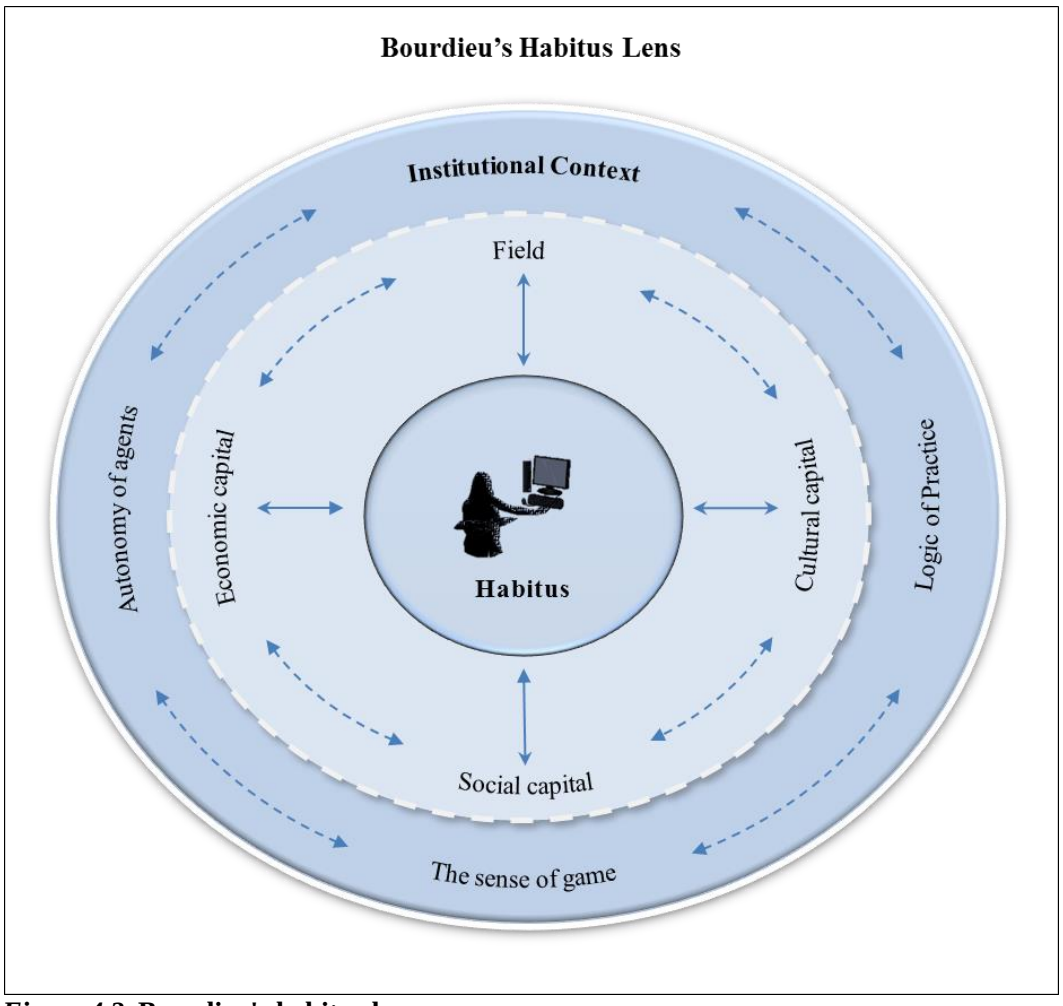


***Figure 4.2*. Bourdieu's habitus lens**

Bourdieu's work on habitus, field, capital (social, cultural, economic), the logic of practice, the autonomy of agents, and the sense of game combine to form a lens that helps to understand Maldivian teacher educators' practices. Bourdieu (1984) notes that capital,

habitus, and field, work together in generating practice among people. Moreover, his concepts of the 'logic of practice', the 'autonomy of agents' and the 'sense of game' will assist me to understand how specific habitual practices are shaped through social cultural norms and the workplace culture in the Maldives. In other words, habitus will allow me to understand teacher educators' socially generated dispositions that are normally invisible. These dispositions are demonstrated in their thinking, perceptions, and actions within a full range of social milieu, such as institutional context of practice, culture, and upbringing (Moore, 2000). Bourdieu's habitus and its associated concepts (Figure 4.2) are discussed below in relation to their relevance to my research.

Habitus

Bourdieu's habitus sheds light on how individuals' professional practice may be influenced by their own cultural practices. According to Bourdieu, habitus is:

> [A] system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions. (Bourdieu, 1977, p. 72)

Bourdieu (1977) argues that habitus forms dispositions arising from schooling, social, cultural aspects, and occupations. Further, Bourdieu (1977) stresses that individuals generate habitus unconsciously, reinforcing certain behaviours and practices. He states that "agents are possessed by their habitus more than they possess it" (p. 18), but habitus does not necessarily form through conscious attention to predetermined "roles," "rules," or "models" (p. 17). These views explain how individuals' early backgrounds can unconsciously influence everyday activities in any profession. Hence, the roles they execute, rules they pursue, the models they follow can be shaped through this. For my participants, these teacher educators' early learning experiences, or the roles they observed in their schooling may generate certain habitus.

Joas and Knöbl, (2011) concede that Bourdieu's argument suggests that individuals' early experiences combined with the input of significant people in their lives (such as parents) teach them to think, perceive, or act in certain ways. This could be understood as being that individuals' "past experiences structure transposable dispositions, give meaning to new experiences and situations, and contribute to the more or less congruent adjustment of practice" (Hilgers, 2009, p. 734). Reay (1997) believes that habitus is embodied as a complex interplay between past and present. Habitus thus, operates in individuals through accretions of past experiences and their outcomes. Teacher educators' early learning experiences may therefore come to influence the shaping of specific pedagogical practice in their workplace culture. In this way, individuals' habitus becomes the presence of past

experiences (Bourdieu, 1977). Belland (2009) suggests that both teachers' and teacher educators' pedagogical practices can be understood through the lens of habitus. He used his concept of "folk pedagogies" (p. 356) for understanding early embodied pedagogical practices and how they are represented in current practices. However, it is pertinent to address the field and how it is associated with the shaping of specific pedagogies in people's practices.

Field

Field is mainly associated with individuals' habitus as illustrated in Figure 4.2. Bourdieu describes field as anything that affects people's actions, behaviours and beliefs in the social world. It is a "network, or a configuration, of objective relations" among positions (Bourdieu & Wacquant, 1992, p. 97). According to Grenfell (2007), 'field' is about interconnected networks that people live in. People's beliefs and cultures, ways of life, ways of thinking, perceptions, and determinations are closely linked to where they live, who they associate with, and how they live. In my research, field examples include: Maldivian culture; workplace culture; participants' beliefs about specific pedagogies; their backgrounds, qualifications, experiences of teaching; and the digital technological tools they use in teaching. In this sense, field is a space in which individuals act upon strategic possibilities. Bourdieu (1993) argues that this is the space in which individuals move from one field to another. Field enables me to understand the notion of habitus participants carry in their practice as explained in Bourdieu's social work. In other words, habitus allows me to understand teacher educators' socially generated dispositions within the field of a full range of social milieus as explained above. These dispositions, however, are generated through forms of capital as exist within the field.

Forms of capitals

As outlined in Figure 4.2, the forms of capital play an important role when individuals form a specific habitus within their cultural context (field). Teacher educators are likely to assign their cultural understanding as they use specific digital technologies and how they teach with them. This includes their conception of pedagogy and what these tools are for. Roland (2002) explains that Bourdieu uses forms of capital to explain habitus and its relationship to socialisation processes. Therefore, capital can be understood as forces or resources that make individuals take different directions in relation to the way individuals form certain practice. For example, religious practice can be a resource which informs individuals in doing things in certain ways. Bourdieu (1986) outlines three types of capital: cultural, social, and economic.

Cultural capital refers to the products of education, whether these are associated with qualifications or connected to schools and universities (James, 2011). Webb, Schirato, and Danaher (2002) suggest that in the field of education an academic degree is an example of cultural capital. So, a qualification becomes part of how people demonstrate their understanding of what it means to practise in a profession. However, Grenfell (2007) suggests that cultural capital "results from engagement in and with education and culture" (p. 60). Generally, teacher educators in the Maldives obtain their qualifications overseas. However, their pedagogical practice is formed in the Maldivian cultural context, in which their understanding of what it means to teach can be recognised as a form of cultural capital. Bourdieu (1986) argues that cultural capital can be represented in three forms: an *embodied* state (dispositions) such as cultural practices can lead to long lasting dispositions in Maldivians; an *objectified* state (relationships with objects) such as cultural givens like books and materials that underline how teaching and learning should take place; and an *institutionalised* state (culture) such as how teaching and learning takes place in the system of education in the Maldives. Bourdieu (1986) also claims that cultural capital can be acquired in various contexts depending on individuals' experiences. Teacher educators' early experiences of schooling or how their own parents or teachers' taught them to learn are likely to exert an influence on their dispositions. In my research, teacher educators have grown up through an education system where teaching and learning has particular expectations (see Chapter Two). Cultural capital may be the most influential form of capital.

Social capital means a network of social relations or a sphere of contacts for a group or an individual (James, 2011). Grenfell (2007) argues that cultural capital is "the sum of resources" (p. 60). It thus is "made up of social obligations (connections), which are convertible, in certain conditions, into economic capital and may be institutionalised in the form of a title of nobility" [symbolically in relationships] (Bourdieu, 2006, p. 281). Bourdieu (1986) argues that it relates to actual or potential resources linked to individuals' dispositions such as early schooling, parenting, observed teaching roles that are institutionalised in specific contexts. In my research, it is important to understand how teacher educators' specific pedagogical practice is conceptualised using specific digital technologies or particular practices, and a particular way of looking at teaching/learning is formed. Hence, highlighting how teacher educators are being institutionalised in their professional practices is likely to be a significant factor in this research. This means the social capital emanating from the participants' educational and cultural background may have a strong connection to their practices. In addition, it would be something to ponder whether some habitual practices made them form specific pedagogies that are embodied

in their own cultural background or not. Hence, these areas need to be underlined when describing teacher educators' social and professional world in relation to the notion of habitus.

Economic capital largely relates to money and assets (James, 2011). It also depends on the wealth, the affordability and the quality of resources available in an institution. This means it relates to the physical or virtual resources available to individuals. In the Maldivian teacher education context, the physical and virtual resources available include digital tools, teaching spaces, and Wi-Fi access. How teacher educators use these, depends on how they understand these tools and resources within their professional lives. This also relates to the extent to which participants manage what is available at their workplace (Grenfell, 2007). Bourdieu (2006) argues that economic capital is the "root of all other types of capital" (p. 288), which means that it provides immediate access to many resources through which individuals obtain both cultural and social capital in the field. For example, the context of this research (teacher education institution) exists in a small island country which does not have many natural resources, so the economic context of the country influences what the institution can afford to provide to its professionals. Access to digital technologies has been limited in the Maldives. It is therefore, that teacher educators unlikely have had opportunities to obtain relevant cultural capital (knowledge about how to teach with these technologies) and social capital (observation of teachers and parents use of these technologies) at any stage of teaching career. In this sense, economic capital may be a factor in the extent of their adoption of digital technologies in their teaching. However, when these technologies became available in a teacher education context in the early 2000s (see Chapter Two), it is essential to understand how teacher educators acted upon this economic capital. This largely relates to individuals' experience in autonomy of agents in an institutional context.

Autonomy of agents

Figure 4.2 illustrates that autonomy of agents (individuals) can play an important role in their formation of habitus in an institutional context. Though Bourdieu (1977) assumes that individuals' options for actions are determined by childhood, family, and school life experiences, according to some other researchers, this is not always the case. Joas and Knöbl (2011) argue that this explanation does not go far enough because as individuals grow up, their circumstances change, as do the social influences, and accordingly, so does habitus, particularly within professional spaces. Reay (2004) recognises that habitus embraces both "permeability and its ability to capture continuity and change" (p. 431).

Therefore, an individual's early habitus does not always define what happens in the future. Roland (2002) used the term "social agents" to refer to individuals who work through both their physical and mental habits. He claims that habitus should not be understood as an inscribed machine. Sterne (2003) argues that people will use specific technologies in their practice when interest exists. This idea could usefully apply to my research context, where teacher educators recognise how students use digital technologies and want to leverage that for learning. Thus, their adoption of specific technologies could occur simultaneously when technology becomes available.

Habitus generates within the field in which individuals live. Bourdieu (1990a) believes individuals are actors in such fields. The actions of an individual, therefore, cannot be understood in isolation from a field in which these actions are meaningful (Joas & Knöbl, 2011). This view is useful for understanding teacher educators' agency in either following expected norms in the professional context, or practise differently. Bourdieu (1990a) argues that education is a field where positioning and repositioning occurs over and around capital. I need to understand if my participants' practices and their views about the available technologies might change their understanding about the role and how they use them in their professional pedagogical practices.

Bourdieu sees habitus as the strategy that is "enabling agents to cope with unforeseen and ever-changing situations" (Bourdieu, 1977, p. 82). The reality of individuals' social structures keeps emerging and unfolding throughout everyday activities in forming certain ways of being and acting. Habitus also "mediates between relatively structured social relations and relatively 'objectified' forms of economic or social agency or interest" (Sterne, 2003, p. 375). Hilgers (2009) suggests that habitus makes "the agent adjust, un-adjust, and readjust his or her [individual's] practices to be compatible with objective reality as it appears subjectively" (p. 734) in the context of the practice. In one objective reality in the Maldives, it could be understood that teacher educators' use of technology may align with their previously embodied teaching habits. Or it could readjust their use depending on what they think is suitable for their teaching. Teacher educators perhaps, change their teaching to mitigate different contextual demands placed on their pedagogical practices.

Emirbayer and Johnson (2008) argue that to some extent, habitus generated through everyday activities in an institution, are formed through interactions, shaping future practice. In Maldivian teacher educators' practices, this view may help to understand the notion of agency, because, most of my research participants became teacher educators before digital technologies were readily available at the teacher education institution. As

technologies became available, teacher educators tended to fit them into how they usually teach. Many researchers have argued that digital technologies have the potential to bring changes in teaching and learning environments (Lim & Oakley, 2013; Wright, 2010). Perhaps these practices are continually negotiated, adjusted or compromised within the available resources and the logic of individuals' own understanding of how things work for them. I wonder whether Maldivian teacher educators alter their practices when they incorporate technological tools. I also wonder about the extent to which they adopt these tools to become a new habitus- how things get done around their working context. Bourdieu's interpretation of "game" is useful to examine in this regard and is addressed next.

Sense of the game

As outlined in Figure 4.2, individuals' sense of the game in an institutional context can impact on generating specific habitus. Bourdieu's (1990a) 'sense of the game' is explained as an important aspect of individuals' shaping of specific practices. In an earlier writing, Bourdieu (1985) stated:

> The social world is, to a large extent, what the agent makes of it, at each moment; but they have no chance of un-making and re-making it except on the basis of realistic knowledge of what it is and what they can do with it from the positions they occupy within it. (Bourdieu, 1985, p. 734)

Bourdieu argues that when individuals struggle with something or within a position, they are likely to adopt what works for them in order to make things easier. Lamaison and Bourdieu (1986) discuss the notion of habitus becoming inscribed in the body of an individual. This reflects the degree to which habits are internalised in practice. This can be described as a game with defined rules, just as an institution has rules of practice. In my research context, the concept of "game" may apply to participants' selection of specific technologies. For example, if teacher educators find a specific tool works well for them, it may be because it is easy to use and lead to effectiveness of their teaching. The benefits in this sense could be understood as a force that made teacher educators decide to continue with it. On the other hand, if a specific tool does not work the way expected or it creates some challenges in their practices, it may never be used again.

The sense of the game can be understood as a way of judging which one or what specific digital technology or facilities make things easier for teacher educators' practices. Schmidt (1997) argues that individuals' desires for changing something in their lives can play a part in changing habitus, thus, adopting digital technologies in the context of this research could be a catalyst for change when using specific technologies, particularly if benefits are gained. On the other hand, the teacher educators may stop using them or

experimenting with them, if they feel it adds complication to their professional practice. Individual's agency in adopting digital technologies and their sense of what makes things work and how it operates (sense of the game) can lead to establishing specific logic of practice in an institution.

Logic of practice

Figure 4.2 illustrates the interconnection of the autonomy of agents, individuals' sense of the game, and their logic of practice when specific habitus forms in an institution. Bourdieu (1990a) argues that education is a field where positioning and repositioning take place over and around capital. The rules or policies adopted in an institution could embody existing practices. This is called a "logic of practice" (Bourdieu, 1990b, p. 30) institutionalised in a workplace. Naidoo (2004) suggests that professionals who work in an academic discipline have a tendency to develop an understanding of what it means to practise in a given context. Thus, the institution is a culture where a specific logic of practice is institutionalised. Here, the institution becomes a social space where teacher educators act upon 'strategic possibilities' (Bourdieu, 1993) which Bourdieu refers to as dynamic and fluid within specific contexts. This means that "action generally adheres to a practical logic, which is often shaped by routine requirements" (Joas & Knöbl, 2011, p. 12). Gunter (2004) for example, who applies Bourdieu's theory to her understanding of how schools as organisations, and the leaders within them, operate, believes understanding the social reality of practice is important when locating the logic of practice that has been maintained in an institution. Gunter (2004) also explains that the field members in an institution may have a strong orientation towards the description, understanding, and explanation of practice. They embody an understanding of what it means to take responsibility for educational processes and outcomes.

In the context of this research, teacher educators may adopt digital technologies because they are institutionally given; accordingly they use them as a vehicle for delivering their teaching. The mutual understanding among teacher educators therefore, becomes a 'logic of practice', in which they believe that the one who does not use these technologies is like an odd one out in the institution. This could also be understood where people have certain ways of practising teaching, and the people who newly join the profession may need to adjust to the formed practice in the institution. Eventually professionals more or less adhere to similar patterns in their practices.

To conclude, the concepts illustrated in Figure 4.2 (p.79) and explained above are interrelated and coexist in participants' social worlds. These concepts influence teacher educators' habitus related to their pedagogical practices and their use of technologies.

Because "habitus is 'relational' it mediates between 'objective structures and practice' …" (Grenfell, 2007, p. 58). In other words, teacher educators' early backgrounds, present pedagogical experiences, institutional logic of practice, their own personal reasons, or the benefits and challenges they encounter in their professional world. All these can mediate and generate a specific habitus in teacher educators' pedagogical practices. Bourdieu explains that social action is involved in the realities of participants' lives, the habits they are used to, and the belief of doing things in certain ways (Grenfell, 2007). The above concepts are summarised with my research aims in Table 4.1 below.

Table 4. 1. Bourdieu's concepts and my research aims

Concepts	Research aims
Field	Understanding teacher educators' formed dispositions in their specific culture and the context of practice. Examples: the Maldivian culture; the workplace culture; participants' beliefs about specific pedagogies; their backgrounds, qualifications, experiences of teaching; or digital technological tools they use in teaching.
Cultural capital	Considering teacher educators' cultural background including some cultural practices that may be involved in their informed practices
Social capital	Exploring the network of their social relations in terms of explaining how their social capital influenced their formed practices, such as people who have been involved in their early learning experiences and formed practices in the institutional context.
Economic capital	Recognising the facilities available, and the quality of resources in their workplace and how these resources have informed teacher educators' practices.
Autonomy of agents	Understanding teacher educators' actions and intentions in terms of their adoption of tools or the change that occurred or continued in their formed practice
Sense of the game	Identifying teacher educators' reasons for adoption of specific tools and the resulting changes to their practices
Logic of practice	Understanding the rationale of their pedagogical thinking and the logic behind their formed practices

Figure 4.2 and Table 4.1 illustrate the main concepts that are involved in my investigation of teacher educators' use of digital technologies in their pedagogical practices. The next section justifies my chosen data collection methods for understanding teacher educators' technological and pedagogical practices.

Data Collection Methods

Data collection is one of the most important processes in any research endeavour. This is the basis of any researcher exploring evidence to answer the research questions and understand the field of interest. In this section, I seek to explain the suitability of my chosen methods: in-depth interview; observation; focus group; and hanging out combined with reflective journaling.

In-depth Interviews

Interviewing is commonly used in ethnographic studies. It opens the room for participants to share their experiences, and allows researchers to seek more clarification when necessary. Hesse-Biber and Leavy (2011) define the in-depth interview as "a meaning making partnership between interviewers and their respondents" (p.105) which creates a reciprocal dialogue in which the knowledge is constructed (Hesse-Biber & Leavy, 2011). One of the key features of the in-depth interview is using open ended questions. The researcher will have established areas topics, or guides for the interviews which will predominantly be open ended questions. Interviewing takes place in an interactive form rather than structured question- answer form and the researcher will use a range of probes and prompts to deepen the conversations in order to generate data useful for answering the research questions (Legard, Keegan, & Ward, 2003). For my interviewing process, I will prepare some guiding questions with a number of prompts. I expect to modify interviewing questions when necessary as I undertake interviews with different participants over time.

According to Cohen et al. (2007), the interview is "a flexible tool for data collection, enabling multi-sensory, [and] …both verbal and non-verbal" forms can be used (p.349). Particularly, the interview is important to use when gathering information about unobservable things (Merriam, 1998), such as experiences, beliefs, and perceptions of people. Further, interviewing is a knowledge construction activity which reflects what interviewers and participants bring to the interview (Charmaz, 2006). This includes the way things are expressed, how examples are given and how issues are addressed. When conversing in each of these, the researcher must be alert to nuances and probe when necessary for understanding. Interviewing is, therefore, useful for exploring the participants' social world, particularly their culturally embedded experiences, views, and meaning in regard to themselves and others (Miller & Glassner, 2011). Interviewing is crucial for my understanding of teacher educators' pedagogical practices. Through this method, I will be able to explore participants' beliefs, experiences, and issues associated with their pedagogical practices in the Maldives.

Interviews will help me to notice things; collect information and think about what I observe while my participants talk. It may lead me to alter my interviewing questions when necessary. This process is in line with Seidel's (1998) model of noticing and collecting information, allowing me to modify questions, adding further probes, and using the silences and responses to clarify specific ideas when required. The interview method also means I can help the interviewee explain in-depth about specific events, situations, or places they feel are important to disclose (Leeuw, 2008). This tool helps me to begin to seek the meanings that participants make out of their experience (Stevenson, 2008).

Burgess's (1985) three reasons for choosing interviewing resonate with my purpose. He says that interviewing enables a researcher to access participants' past events, places, and situations. For me it is important because, firstly, I seek to understand the influences at work that shape specific pedagogical practice. Secondly, I want participants to talk about their experiences and how their interactions with digital technologies influence the extent to which they are used in their practices. Thirdly, because I will explore teacher educators' use of these technologies through the notion of habitus, it requires me to understand the logic behind their use of specific technologies in their practices and how their practices become habits. The next section explores the suitability of observations in my research.

Observations

Observation allows researchers to observe both direct and indirect actions associated with participants' practices. Ethnographers' methods rely substantially on "participant observation" (Atkinson & Hammersley, 1994, p. 248). Ethnographic research requires "direct observation" and "being immersed in the field" (Spindler, 1987, p. 4). My research involves two types of observations: a form of structured classroom observation, and unstructured or participant observation, through a 'hanging out' approach. These two types are often distinguished from each other as participant and non-participant observation. Both "participant and non-participant observation are used to acquire first-hand, sensory accounts of phenomena as they occur in real world settings" (Goetz & LeCompte, 1984, p. 3). Participant observation, therefore, helps me to openly interact with my participants and involve with their everyday practices in their actual workplace context (Atkinson & Hammersley, 1994). Angrosino (2007) argues that participant observation is not a technique itself, but a role adopted by the researcher during the research endeavour. The nature of this observation thus becomes more concentrated on a researcher's engagement and close interaction with the participants in their natural context. In my case, the natural context is their place of work (teacher education

institution). According to Bloor and Wood (2006), ethnographers need to observe participants' interaction with each other and with this context by observing their actions and listening to their conversations while simultaneously being aware of observing the context (particularly the time and location) in which these actions take place. In my research, being a participant observer is linked to the 'hanging out' approach which I will explain later as a method of data collection.

However, non-participant observation or structured observation in my research emphasises observing the classroom teaching of my participants. In this observation, my role completely relies on note-taking and listening to student-teacher interactions rather than getting involved with my participants or students inside the classrooms. In this sense, my observation focuses on generating descriptions and arriving at reasonable explanations for the educational phenomena (Malderez, 2003). Such observation is used to understand teacher educators' classroom pedagogical practices (Baker, 2006). Observation will provide me with opportunities to gather 'live' data in participants' pedagogical settings, and seek information directly when it is taking place (Cohen et al., 2007). Structured observations therefore, make it easier for me to collect data as teacher educators carry out their professional work inside the classroom. The purpose of observation in this sense is a point of reference with what they share in the interviews and their actual pedagogical practices.

In summary, observations are useful for my research for several reasons. Firstly, the foremost concern for me is learning about participants' everyday activities, habits, and experiences regarding their interaction with digital tools at their workplace. Secondly, observation permits me to gather information about the physical setting in use, the classroom layout, and where digital tools are positioned. Thirdly, observation also allows me to explore how the digital tools were used by either teacher educators or students for various purposes. These purpose might be instructional, motivational, or delivery purposes, any of which need to be understood within the interactions among the members of the classroom under scrutiny. Fourthly, this method enables me to understand and explore the pedagogical orientation of teacher educators when they use digital technologies in their pedagogical practices. During my observations, I will attempt to record all relevant information and clarify the notes I write on teacher educators' pedagogical practices at the end of the observations. In this vein, the emphasis is on capturing the perspectives of the individuals being observed, which requires careful listening to pick up subtle cues and nuances (Wiersma, 1986).

Apart from interviews and observations, focus group discussions will be a useful adjunct for data generation in my research. The next section explains my reasons for this.

Focus Groups

Focus groups are a form of group interviewing in which the researcher relies on participants' interactions based on specific discussion points on selected topics (Morgan, 1998; Smithson, 2008). Focus groups are carefully planned for generating and obtaining interactive data between participants (Peek & Fothergill, 2009). A focus group becomes a more relaxed form for open discussions in relation to a specific topic (Powell & Single, 1996). The issues for my participants' focus group discussions will be selected based on emerging findings from interviews and observations, and are an opportunity for me to member-check my emerging findings. Kitzinger (1995) suggests that a focus group method can help explore and clarify views and issues that are less accessible in one-to-one interviews, and see if ideas are commonly understood and accepted. I want to know what teacher educators think about issues related to their pedagogical practices. Focus group sessions are typically led by unstructured discussion points. Discussions then generate new prompts and new ideas through the interactions of participants of the group (Smithson, 2008). Since the discussion points will be decided on the basis of emerging findings from interviews and observations, more issues may emerge through their discussions. In this sense, these discussions will allow me to cross-check and deepen my understanding about my participants' pedagogical practices.

Some researchers prefer six to twelve participants in one group (Smithson, 2008). Greenbaum (1998) claims focus groups can be divided into two types: full group (eight to ten), and mini-groups (four to six). Researchers have preferences in terms of group size as some claim to have at least three members in each group, whereas others prefer as large as twenty focus group discussion members (Morgan, 1998). The ideal size of a focus group thus varies, depending on either the nature of data sought or the nature of the research interest. The size of my focus groups will be decided by how many participants are available when the groups can be scheduled. Since my prime focus is allowing participants to talk, interact and freely discuss issues associated with their pedagogical practices, they are in charge of the composition of any focus group that will be part of my study. The general emphasis, therefore, is on the interactions and participation of group members, rather than how many people there are (Edmunds, 1999). Smithson (2008) believes when there are larger numbers in one group, there is likely to have less interaction by some participants.

Some researchers also consider demographic characteristics of group members such as gender, sex and education (Morgan, 1998; Smithson, 2008). They argue that having similar characteristics allow easy interaction between group members, and that rich data can be generated through such commonalities. Smithson (2008) claims that when group members are comfortable with each other, it simultaneously promotes richer conversations between the group members. Gibbs (1997) asserts that participants' comfort and preferences should be considered in organising focus groups, and I will consider this in my deliberations with my participants.

In short, focus groups will be useful in many ways. First, they enable me to listen to teacher educators' interactions and discussions regarding preliminary findings. Second, they allow teacher educators to use their voice, to express views and share experiences more openly than answering specific questions in one-to-one interview settings. Third, they permit me to triangulate the data gathered from previous data collection methods such as one-to-one interviews and observations. Fourth, they will assist me to learn about critical issues relating to their pedagogical practices. Fifth, they will enable me to collect data on collective, rather than individual, experiences and views. Learning about the issues and collective experiences will be pertinent for an in-depth understanding of teacher educators' pedagogical practices and their use of digital technologies.

The hanging out approach is useful for complementing data generated from the three methods discussed above. The following section explains why hanging out will help me understand teacher educators' pedagogical practices through my ethnographic project.

The Hanging out Approach, with Reflective Journaling

The hanging out approach is seen as an accompanying data collection method in ethnographic research. 'Hanging out' is an idiom which describes the field relationship of the ethnographer and the research participants. It refers to a researcher's involvement "in a range of activities such as social events, leisure, activities or times when the researcher is simply just spending time 'hanging out' with members of the research group" (Bloor & Wood, 2006, p. 85). The researcher's role is considered as between being 'inside' and being 'outside' in the process of seeking understanding and producing knowledge about the research phenomenon (Woodward, 2008). Hanging out creates opportunities to learn and overhear direct and indirect interactions between participants in their workplace. This approach is pertinent for my data collection as it complements and supports data generated from other methods such as interviews, observations, and focus groups.

Hanging out therefore, is about recording everyday activities related to participant(s) in a research site (Auyero & de Lara, 2012). For example, in learning about homeless women, researchers recorded and documented a range of activities they were involved in with the participants during the research period (Groot, Hodgetts, Waimarea Nikora, & Leggat-Cook, 2011). Ugelvik (2012) describes such everyday activities by claiming that he spent most of his time with participants as "hanging around the wings, drinking coffee, playing pool, talking with anyone interested about whatever they would want to talk about" (Ugelvik, 2012, p. 262). In understanding Ecuadorian migrants in Italy, Boccagni (2011) took part in a range of social events with them during his ethnographic fieldwork. These examples show how these researchers used the hanging out approach. Hanging out with my participants therefore, will help me learn about my participants' everyday activities associated with their pedagogical practices and their use of digital technologies. In the examples noted here, the researchers used hanging out as a major data collection method. For me, however, it will be a complementary method, rather than primary. It, therefore, supports ethnographic fieldwork and the generation of an-in-depth understanding about my participants' experiences and practices. According to Hammersley and Atkinson (2007):

> Ethnography usually involves the researcher participating, overtly or covertly, in people's daily lives .., watching what happens, listening to what is said, and,/or asking questions through informal and formal data gathering tools. … In fact, gathering whatever data are available to throw light on the issues that are the emerging focus of inquiry. (p. 3)

What these mean to my research is that the hanging out approach is useful for me because I can be involved in a range of activities, so I can notice, collect and think about various indirect, direct actions , particularly relating to teacher educators' habitual pedagogical practices at the institution. Ethnographers gather information about individuals' actions and accounts in everyday activities, for exploring what ethnographers wish to understand about the research focus.

For me, experiencing what my participants encounter in their everyday professional activities at their workplace with regard to their use of digital technologies is essential to understand how institutional factors influence their shaping of pedagogy. Data gathering in this way is usually "unstructured" (emerging throughout the process) and requires a researcher's inherent involvement in the site of ethnography (Hammersley & Atkinson, 2007, p. 3). In the context of my research, this results in many informal (going for coffee, having lunch together, just talking about various things in the corridor, at their work station) as well as formal activities (being with them when planning for their classes, and being involved with them when discussing various issues that they encounter). More

specifically, notes on these activities will be taken through writing of reflective journal during the research process. In summary, a hanging out approach complements other data collection methods for seeking a better understanding and validating other sources.

Chapter Summary

Researchers embrace various stances that guide them in the research process. This chapter has outlined my methodological framework explaining reasons and justifying beliefs pertaining to my philosophical and methodological stances. These stances associated with my epistemology, ontology, paradigm, and methodology in the research process are illustrated in Figure 4.1. My ontological view is that there is no one single truth, but multiple truths in human lives. This view of human realities guides my view of creating knowledge. For me, knowledge can be created through interaction between me and my participants. Further, my ontological and epistemological views guide me towards the interpretive stance which seeks to understand individuals' experiences in real settings (teacher education context). These philosophical stances require a research approach which allows me to collect data through interactions with my participants. Thus, I decided an ethnographic methodology, which would suit my research aim of understanding cultural influences in my participants' workplace context. Ethnographic methodology enables me to generate thick descriptions about each individual's multiple experiences and practices in the teacher education context of the Maldives. The insider position plus the analytical lens will support both my understanding and generation of data for answering my research questions, through interviews, observations, focus groups and the hanging out approach.

Chapter Five: The Research Process

As outlined in the methodology chapter, my research is aimed at investigating teacher educators' technological and pedagogical practice in the Maldives. My long term goal is to use what my thesis uncovers to develop ways of supporting teacher educators' use of digital technologies in their future pedagogical practices. This chapter explains my process of generating data about teacher educators' technological and pedagogical practices in the Maldives to understand what has influenced them and how their practices were shaped. This chapter is divided into six sections. First, it describes ethnographic phases of research, how data were generated, and how I managed some insider researcher issues throughout the research process. Second, the chapter explains my steps in data analysis, how the key themes emerged, and how these themes helped me to conceptualise teacher educators' pedagogical practices in the Maldives. Third, the chapter describes how I maintained ethical practices during both data collection and drafting findings. Finally, the fourth section explains how I ensured trustworthiness throughout the research process.

Ethnographic Process

As an interpretivist who holds a relational epistemological view, I have attempted to explore information about participants' views, experiences, and practices associated with their use of digital technologies in their teaching. The following sections provide details about the research process as illustrated in Figure 5.1, including details about the selection of the ethnographic site, participants, and gathering data for answering my research questions.

Selection of Ethnographic Site and Participants

As discussed in the literature, identifying changes of pedagogy with the use of technologies seemed complex regardless of teachers' frequent use of technologies. More specifically, the literature draws attention to the close connections between teachers' conceptualised pedagogy and their cultures. However, impact of culture was given limited emphasis when exploring teachers' use of technologies. Teachers' social and cultural norms and their own backgrounds could be aspects that influence their use of digital technologies in pedagogical practices. This led me to wonder how technological and pedagogical practices are shaped in the Maldives. With this in mind, I sought permission to investigate this area where I worked, in the Maldives. Once I was granted permission for conducting this research, I could then identify a group of teacher educators

who work in this institution. In order to select an appropriate group of participants, I first sought to learn about teacher educators' interests in using technologies.

Since the selected institution for my research is a place where I worked for about eight years prior to my doctoral study, the majority of teacher educators had been my colleagues. Due to this shared collegial relationship, I found it relatively easy to communicate with them prior to my formal data collection phases. In order to seek my colleagues' participation, I posted a statement about technology use in teaching on my Facebook wall. It was fortunate that many of my colleagues hit 'like' and commented on my posts. I took that opportunity for opening up conversation about my research with these colleagues, explaining more about my research area. Seven out of twenty colleagues in my friends' list voluntarily offered to participate. It was these people I listed as my potential participants prior to my first formal research visit to the research site (the institution).

During this first visit to the institution, I formally invited my colleagues I communicated with via Facebook and outlined the ethical considerations of the research. The rest of my participants were individually approached on the basis of my knowledge about their technology use. Of the fifteen teacher educators formally approached, I gained voluntary participation from twelve teacher educators who agreed to become my research participants. A total of 49 teacher educators were employed at the time of my data collection. The research group therefore, represented approximately a fifth of the academic staff members. I identified individual's characteristics in general to maintain ethical anonymity. According to these characteristics: such as their familiarity with technology use; teaching subjects (local language, science, humanities, and professional studies); age ranges over thirty; qualifications (degree and masters); and geographical background in the Maldives (small islands, larger islands, capital city). These are used to describe broad categories, rather than make comparisons.

Getting Started with the Data Collection

As mentioned earlier, I gained permission from the institution ahead of my first formal visit to the research site. Even though my first visit to the institution was during teacher educators' academic annual-leave period, I talked with the Dean of the institution, explaining my research and likely time periods. Though the information about the research had been sent to him earlier, sharing it face-to-face was a good start for my research work at the institution. I also requested a workstation from which I could conduct interviews and meet my participants when necessary. Although I knew how this place functioned because of my insider status, I sought to clarify some changes in terms

of institutional technology affordance and infrastructure, as well as any rules and regulations at the institution. For this purpose, before meeting my participants, I visited the institution three days per week during this annual leave period, spending approximately one to two hours with some administrative staff members. Through these efforts, I learned about the infrastructure, such as available facilities, the networking and Wi-Fi connection and its availability for the academic staff. Information gathered included academic calendar, regulations, and changes to teacher educators' workstations and locations. Although this information is not part of my formal data collection, it helped me prepare for meeting my participants and initiating data collection.

The first day of formal data collection began when my participants reported for work on 2 January, 2013. In order to formally gain consent and provide information about my research, I organised a traditional Maldivian breakfast two days later in the workplace tea room. I invited all potential participants, the dean, and administrative coordinators to this information session. In order to make things clearer for my research participants and the administrative staff members (the Dean and the head of the administrative office), I explained my research, roles/duties, expectations, and limitations. I also informed them about their roles and what involvement in my research process would mean for them. Finally, I expressed my appreciation and acknowledged their participation and support from the institution.

At this meeting, I gave a participant's file to each member of the research group. The file contained the necessary information about my research including the consent forms, interview guide, observation guide, and data collection schedule sheet. During the meeting, participants were given time to ask questions so I could clarify individual concerns regarding their roles in my research. As a result of this level of details, signed consent quickly followed. The next section explains how my data gathering took place within the different phases.

Data Collection Phases

My ethnographic research design followed four phases of data collection (Figure 5.1). In each phase, the data led to a growing understanding about my participant teacher educators' digital technology use and their shaped pedagogy. A data collection timeline is provided in Appendix A and the process of each phase is explained in the following sections. Each phase took place by using Seidel's (1998) approach 'notice, collect, and think', which meant I could modify, probe, enrich my understanding as the time progressed.

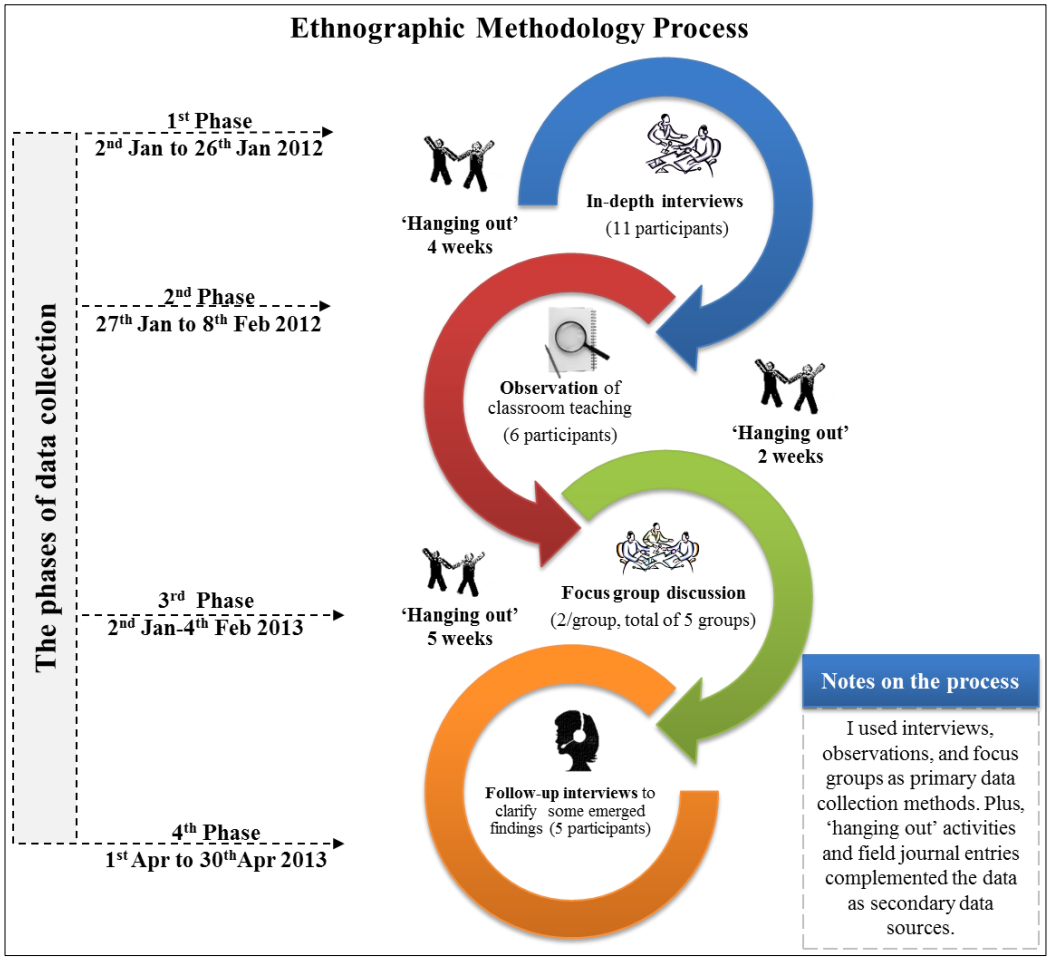


***Figure 5. 1*. Ethnographic research process**

The First Phase: Initial Interviews

As illustrated in Figure 5.1, the first phase took place from 2 to 26 January, 2012. The focus was on generating initial understandings of teacher educators' pedagogical practices when they used digital technologies. I carried out two main tasks: hanging out with participants over about four weeks; and conducting individual interviews with eleven participants, as shown in Figure 5.2. The hanging out activities are discussed more fully later and the details about the interviewing process are provided in the following section.

Interviewing process

The first task was to organise suitable interview times with each of the participants. These interviews took place between 9 and 26 January, 2012. The day before each interview I reminded participants and confirmed the interview time. The interview schedule is given in Appendix A. These initial interviews centred on generating data about teacher educators' backgrounds (Figure 5.2). Participants talked widely about their previous experiences, including early learning experiences and how they use technologies in their

teaching. The interviewing process took place relatively informally, and each audio recorded interview lasted for about an hour.

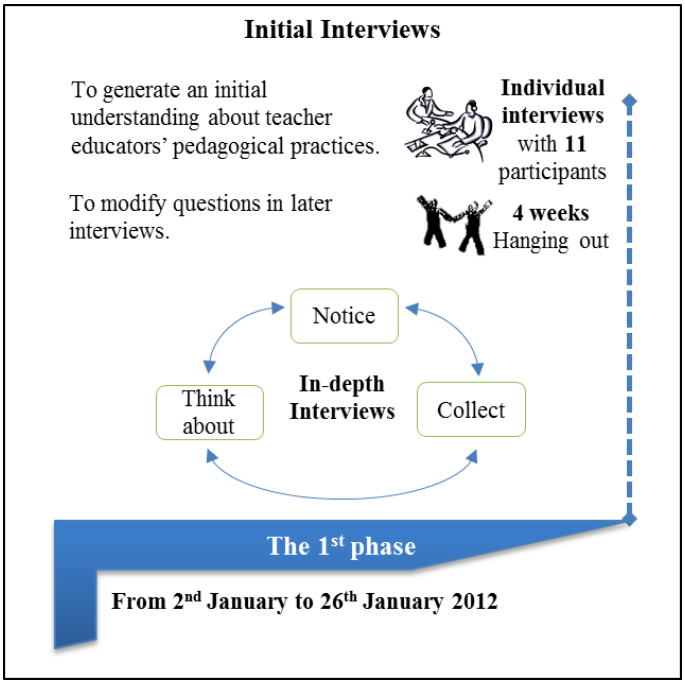


Figure 5. 2. **Initial interviews**

At the start of every interview, I always introduced my topic and started my conversation with everyday talk, using phatic communion phrases such as 'How was your day?', 'How is it going?', 'It's really good to have you here'. These introductory conversations helped my participants to relax. Though I had a question guide prepared ahead (Appendix B), the interviewing process did not completely follow this sequence because participants covered many areas at once that I had intended to explore with them. However, they talked much less about their existing uses of digital technologies. On such occasions, in order to expand their conversations I probed their responses using such phrases as 'Why do you use…?', 'How do you use...?', 'How does it help you?', 'Did you find it useful?', 'What sort of changes do you realise?', 'What does that mean?' and similar prompts when necessary. These prompts enabled them to continue to share more about their existing practices, and me to understand their experiences more deeply.

The interviewing process allowed me to notice things and add questions in later interviews with other participants (Figure 5.2). This therefore, mirrors three processes suggested by Seidel's model (1998). When completing an interview, I listened to the audio recording repeatedly to collect information, notice important things from it, and think about what I might gain through asking different questions or more probing ones in the next interview. To document this, I also kept a reflective journal about what I was

learning from different interviews and through the hanging out activities. The hanging out with my participants during this period was useful for guiding my investigation.

As I continued with the interviewing process, I also began transcribing interviews. These initial transcriptions assisted me in deciding what I next needed to observe, thus I was enacting Seidel's (1998) QDA process. For example, some participants mentioned that when they used digital technology, they noticed that students' interaction and engagement appeared to increase. I, therefore, decided that I needed to explore the nature of this interaction and engagement when I was observing classroom teaching. At the end of this interviewing phase, I noticed specific ideas arising from this first set of data collection as a focus for the next phase of data collection. These included things like the main technological tools teacher educators used, how they used them, how they interacted with students, and how their chosen technological tools created/enhanced interactions between teacher and students.

At the same time, I realised that there were some limitations in collecting data through interviews, so these are addressed in order to maintain the ethical validity of data. Firstly, as I was an insider researcher, I had many challenges in managing the interviews in the early stages, because of our existing close professional bonds. For example, sometimes participants spent more time talking about things outside of my research focus. DeLyser (2001) noted this, believing such experiences are a natural process of the insider journey in the interviewing process. In my experience, this played out in participants' over-eagerness to please me, which made it difficult to elicit the responses that I wanted to understand. At other times, my participants' experiences appeared to be very similar to mine. In my analysis, this made it hard for me to separate my experiences from theirs. Over time, I learned to manage these tensions. I learned that more prompts and probing made it easier to direct my participants' conversation towards my research focus.

Secondly, since my participants' first language is not English, interviewing involved translation. While some participants gave interviews in English, others talked in our local language. I was not sure if some participants who spoke in English had any difficulty in expressing their original meanings and experiences. On the other hand, since this thesis is written in English, I cannot be certain that my translations are absolutely accurate. In this regard, my insider status was a benefit, for I could interpret the expressions and the meanings participants articulated because of our close familiarity. Cortazzi, Pilcher, and Jin (2011) argued that if the interviewer is an insider it has less effect on generated meanings, as an insider researcher can effortlessly contextualise the meanings regardless of which language the participant chose to use. With their experience in mind, I am

hopeful that I have properly represented my participants' ideas. In this regard, the choice participants made about the language of the interview was immaterial. Listening to interviews later and transcribing them helped me to decide who to observe, what to observe, and what to clarify in the second phase of data collection. The following section describes the process of data collection in the second phase.

The Second Phase: Classroom Observations

During the same visit, the second phase of data collection took place between 27 January, 2012 and 8 February, 2012, through conducting observations of classroom teaching of six participants. My observation mainly focused on gathering information related to the preliminary findings of the first phase. I wanted to know more about how they practised what they articulated in interviews. The process of observation is illustrated in Figure 5.3.

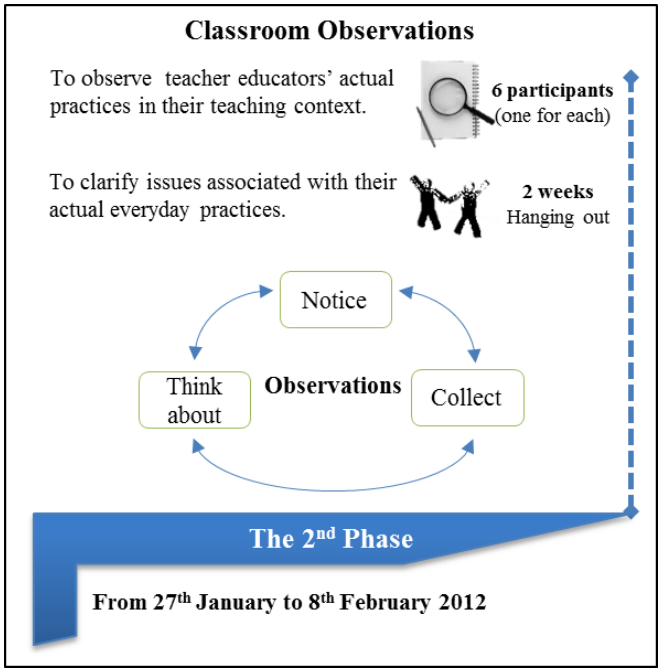


Figure 5. 3. **Classroom observations**

Observation of classroom teaching

After completing all the interviews, I repeatedly listened to the audio recordings and noted important things that I needed to observe in my participants' teaching. Although I had prepared an initial structured observation sheet (Appendix C), I altered this after conducting interviews and reviewing initial data. This process enabled me to refine my focus of observation and identify what needed clarifying. It also helped me to approach participants depending on what they identified as the digital technologies they used in their pedagogical practices. Though I approached eight participants, I obtained consent from six participants for observing their classroom teaching. Thus, out of eleven

participants who I had interviewed, I observed six of them. This was approximately half of my participant group.

I spent more than an hour observing in each classroom. There was no interaction between me and students during my classroom observation. My observation emphasised three dimensions: how students interacted with each other, how students interacted with their teacher educator, and how both teacher educators and students interacted with the use of technological tools (Figure 5.3). The intention was to learn about the impact of technology use on student learning and the classroom teaching. These observations also enabled me to learn about the classroom technology infrastructure that includes the technological tools available inside the classroom. After each observation, I spent twenty to thirty minutes with the teacher educator to understand their aims in using specific strategies when using different technological tools.

The observations process is classified as one of the hanging out activities (Figure 5.3). It enabled me to notice, collect, and consider (think about) various issues related to teacher educators' pedagogical practices. In particular, some of these activities allowed me to learn more about the on-going difficulties and challenges that teacher educators experienced in their everyday professional practices. I deliberately observed what they did prior to their classroom teaching. This helped me to collect in-depth information about technical difficulties that were associated with teacher educators' shaping of habitual technological and pedagogical practices such as their reasons for favouring specific tools over others.

The observation notes provided me with rich data; this included understanding teacher educators' interactions with both technology and their students. This enabled me to link practical examples of what they articulated in their interviews such as 'engaging students and assisting students' through using technologies. The observed lessons showed me first hand issues that were raised in interviews regarding technical difficulties and so observation data confirmed some of my preliminary findings. For example, from the interview data, I realised that teacher educators were very much concerned with knowledge and content delivery. This particular notion was mirrored in their pedagogical strategies inside the classrooms. Thus the observational data connected closely with the interview data. The observation schedule is given in the data collection timeline (Appendix A).

In spite of successful data gathering through observation, I had a number of difficulties while completing the observations: observations were limited to three; some teachers planned a specific lesson for the observation; and the timing was not ideal. Firstly, the

observations were limited to six participants - about half of the research participants. It would, perhaps, have enhanced the understanding and the clarification of the data collected, if I could have observed more classes. Secondly, since participants decided which classroom I was to observe, some deliberately planned a specific lesson for the purpose of the observation. However, although they prepared these lessons with me in mind, they still exhibited the actual pedagogical approaches associated with their habitual teaching. In spite of this limitation, data gathered from other sources such as interviews, focus group discussions, and hanging out, supported the findings emerging in the classrooms. Thirdly, the observations could have been more appropriate if they could have been scheduled during the mid-academic year instead of the beginning. Participants were mostly concerned that at the beginning of the year they normally teach the background or introduction of the modules. If I could have observed their classes during the mid-year, I might have been able to generate a better understanding of their pedagogy. As a doctoral student, however, I did not always have full control over my time schedule. Though I had these limitations in both interviewing and the observation processes, I was able to collect a considerable amount of information and validate teacher educators' habitual pedagogical practices through other sources of data. The next section provides details of the third phase of data collection.

The Third Phase: Focus groups

The third phase of data collection lasted from 2 January, 2013 to 4 February, 2013, one year after the second phase. In this phase, I mainly concentrated on discussing the preliminary findings with participants and deepening my understanding of teacher educators' pedagogies. In this, my key tasks were hanging out and conducting focus group interviews centred on examining the emerging findings from previous phases of analysis (Figure 5.4).

Focus group session process

Prior to my visit, I generated a preliminary analysis of collected data. I also presented some of these findings at conferences. These processes and events helped me clarify and structure my focus group questions and discussion points (Appendix D). Before conducting these focus groups, I invited my participants to an informal tea, where I outlined key ethical concerns associated with confidentiality and anonymity. It was important to reiterate and clarify these so that participants understood the process of focus group interviews. At the end of the ethics session, my participants chose who they wanted to work with during these group interview sessions. Appendix A lists the schedule of these focus group sessions.

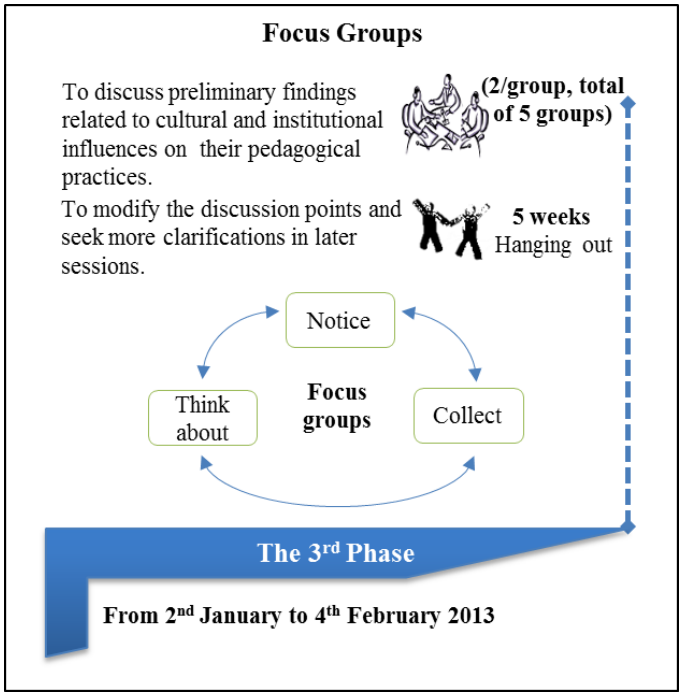


Figure 5. 4. **Focus groups**

Data generation during this phase was also organised through Seidel's (1998) QDA: notice, collect, and think about (Figure 5.4). This process helped me identify unanticipated data through the hanging out activities, which eventually enriched the focus group discussions. The audio recorded focus group discussions tended to be small: me and two participants, lasting approximately an hour. I began these sessions by sharing preliminary findings based on an analysis of existing data. They were also given the opportunity to argue and justify, regarding specific concerns related to their pedagogical practices. Focus group sessions were thus opportunities to member-check initial sets of analysed data. Participants discussed issues, for example, relating to their rote learning pedagogy and their views about their very early learning experiences of recitation of the *Qur'an* and the extent to which these had influenced their pedagogical thinking.

Though focus group discussions hugely contributed to the data, I experienced some limitations. The first was that some researchers focus on power relations between a researcher and participants in a focus group session (Morgan, Gibbs, Maxwell, & Britten, 2002), suggesting that power relation can be both a benefit and a disadvantage to the data. For example, when a researcher directs questions too much, this may influence eliciting interactions between participants. On the other hand, when participants are given more flexibility this could also influence the nature of the data generated. I experienced both of these cases during the focus group sessions. For example, participants often raised issues beyond my research focus. I, therefore, had to steer them back to it, sometimes making it hard to maintain a balance between where the participants wanted to go, and what I

needed to learn about. In that regard, Gibbs (1997) claims that researchers often need to keep the session focused and deliberately steer the conversation back on track. Morgan (1988) argues that researchers have less control over the data generated when members of focus group begin to build on each other's ideas during a discussion.

Secondly, my participants decided to form two-member groups as they found it more suitable and convenient for them. However, I wondered whether the data generated would have been richer if groups were larger to feed off each other in conversation. Thirdly, focus groups took place during a busy time at the start of an academic year, and so, I wondered whether this timing affected the data I gathered. I also had some difficulties in conducting the discussions as scheduled, because for some groups, rescheduling happened twice. For other groups, I had to organise the session directly after their classes, so it is possible that they were not necessarily focused on my discussion but on their classes.

Hanging out Activities during Three Phases

The three phases explained previously were undertaken independently from each other due to the nature of data gathering process and the preliminary analysis involved in each. However, these phases were took place during two major visits in 2012 and 2013, as illustrated in Table 5.1. The hanging out with my participants is thus explained taking into account the spread of the two visits, consisting of a total of eleven weeks. The hanging out took place during working days (Sunday to Thursday - in the context of this research and working hours - 8:00 am to 4:00pm).

Table 5. 1. Duration of hanging out within the three phases of data collection

Field-visits	Year	Data collection phase	Hanging out time	
Visit 1	2012	1st phase - Interviews: 2 - 26 Jan.	4 weeks	5days per week, 6-7 hours/day
		2nd phase - Observations: 27 Jan.- 8 Feb.	2 weeks	
Visit 2	2013	3rd phase - Focus groups: 2 Jan - 4 Feb.	5 weeks	

During this time, apart from gathering data through primary sources, I was involved in both formal and informal activities with my participants. Some formal activities were associated with their professional duties such as planning lessons, discussing assignments and projects, helping in their presentations, as well as discussing new modules and new courses. Being part of these activities allowed me to learn my participants' everyday professional activities and experience something of their concerns related to their use of digital technologies at their workplace context. Some of the informal activities, I

participated in were going for coffee, having lunch together, talking during their free times, participating in meetings and social occasions. Since I was always available without any teaching obligations at their workplace, many of my colleagues came to my office whenever they had free time.

My hanging out activities meant I could enrich my data. For example, I often overheard conversations or had conversations with colleagues. Those conversations were useful for learning about many issues associated with their professional practices. My participants often talked about students and their attitudes toward learning, and this was useful to learn. The reflections written about my hanging out activities complemented the exploration of my research interest. In short, the hanging out approach was a useful method for my ethnographic research, particularly enabling me to reflect on many issues associated with my insider researcher position. This was very pertinent in the early phase of interviewing. It also allowed me to be connected with my participants outside interviewing and observation times. Lastly, it assisted me in modifying interviewing questions, clarifying issues after observing classroom teaching, and adding discussion points to focus group sessions. In all, these enriched the exploration of my research focus. Some examples of these hanging out activities are given in Appendix E.

The hanging out with my participants was combined with reflective journaling. Though I could not always write about the activities I was involved in on the spot, I made short notes to develop later. Writing about the hanging out activities enabled me to learn additional information about various issues associated with my own experiences. This means that whenever I wrote about incidents, events, or situations, I added my reflections to them. These reflections helped me learn about useful issues associated with understanding of the research focus. There are precedents for my approaches of hanging out and writing of journal. These journal entries assisted my research process in several ways. Firstly, they helped me to unravel my researcher role and to manage issues related to my insider researcher role. Secondly, they documented everyday activities and recorded miscellany (date keeping, time keeping, schedule changes) relating to the research process. Thirdly, they showed me more about my own research journey and increased the trustworthiness and transparency of my research process. Some examples of these journal entries are given in Appendix E.

In my hanging out approach I experienced two limitations. The first relates the timing of my hanging out. This appeared to be difficult because of the limited periods of my visits. Secondly, my visits occurred at the start of two academic years, 2012 and 2013. Most participants were busy with preparations for teaching. I wondered whether I could have

collected richer data if I had been able to spend more time with them, or had been able to visit during the mid-year. These limitations, however, were out of my control.

The Fourth Phase: Follow-up Interviews

The fourth phase of data collection took place from 1 April, 2013 to 30 April, 2013. After analysing the data from previous three phases, I came to an understanding that teacher educators' pedagogical practice is closely embodied by their own cultural context. Through this understanding, I realised that I needed more clarification on certain issues, specifically about their early schooling. Thus, I approached six out of eleven participants to probe this idea further. The process of this phase is illustrated in Figure 5.5.

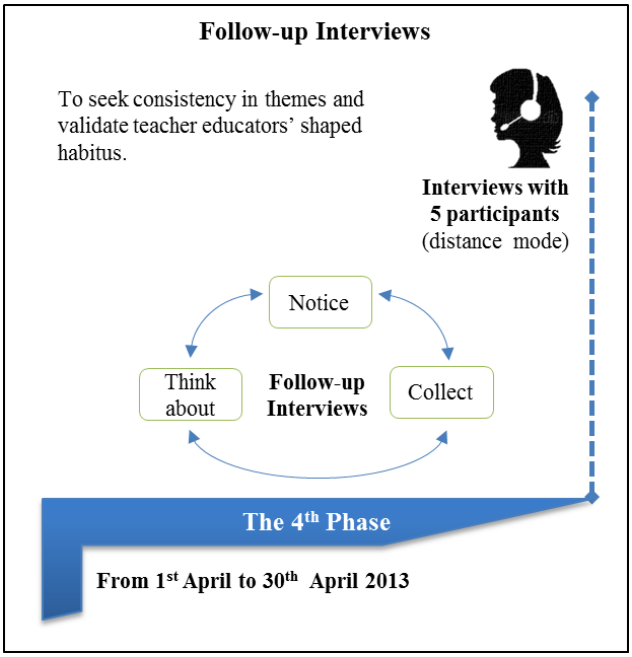


***Figure 5. 5*. Follow-up interviews**

Follow-up interviewing process

On the basis of preliminary findings, the six (*N*=11) were asked for another interview that we could have via Skype or Viber (communication tools), once I had sent them a new interview guide. Subsequently, three participants participated in either a Viber or Skype call, while two provided written responses via email. Though I obtained consent from six participants, for medical reasons, I could not interview one of them. The three processes of 'notice, collect, and think about' (Seidel, 1998) were also applied in this final phase of data collection (Figure 5.5). After every interview, I had time to transcribe and analyse data before any subsequent interviews. The data collected in this phase represented the missing pieces of the puzzle in understanding how my participants' pedagogical practice was shaped. In this phase, I also discussed preliminary findings with the five participants in order to revise the data and validate my understanding.

There was, however, one limitation to this follow-up that required some effort to overcome; the time zones. I lived in New Zealand, while I undertook my doctorate, but my participants are in the Maldives. One of them, however, was studying in Australia at the time of my fourth phase of data collection. The time difference between New Zealand and the Maldives is about six to eight hours. However, finding times did not unduly affect my participants' data though the problem required considerable effort and negotiation to resolve satisfactorily.

Managing Insider Issues

DeLyser (2001) claims that insider-researchers can face difficulties during the research process because of their over-familiarity with the research context and participants. This section, therefore, describes the obstacles/dilemmas, I encountered throughout my data collection. As an insider-researcher, I experienced a number of difficulties because of the sameness that I shared with my participants. DeLyser (2001) acknowledges a range of problems arising from the interpersonal obligations and personal engagements he shared with his research participants. I found similar problems. These are described next under the following sub-headings: insider knowledge, entanglement, and role ambiguity. These issues and their influence on my researcher role are, illustrated in Figure 5.6 (published during my doctoral study) and discussed in turn.

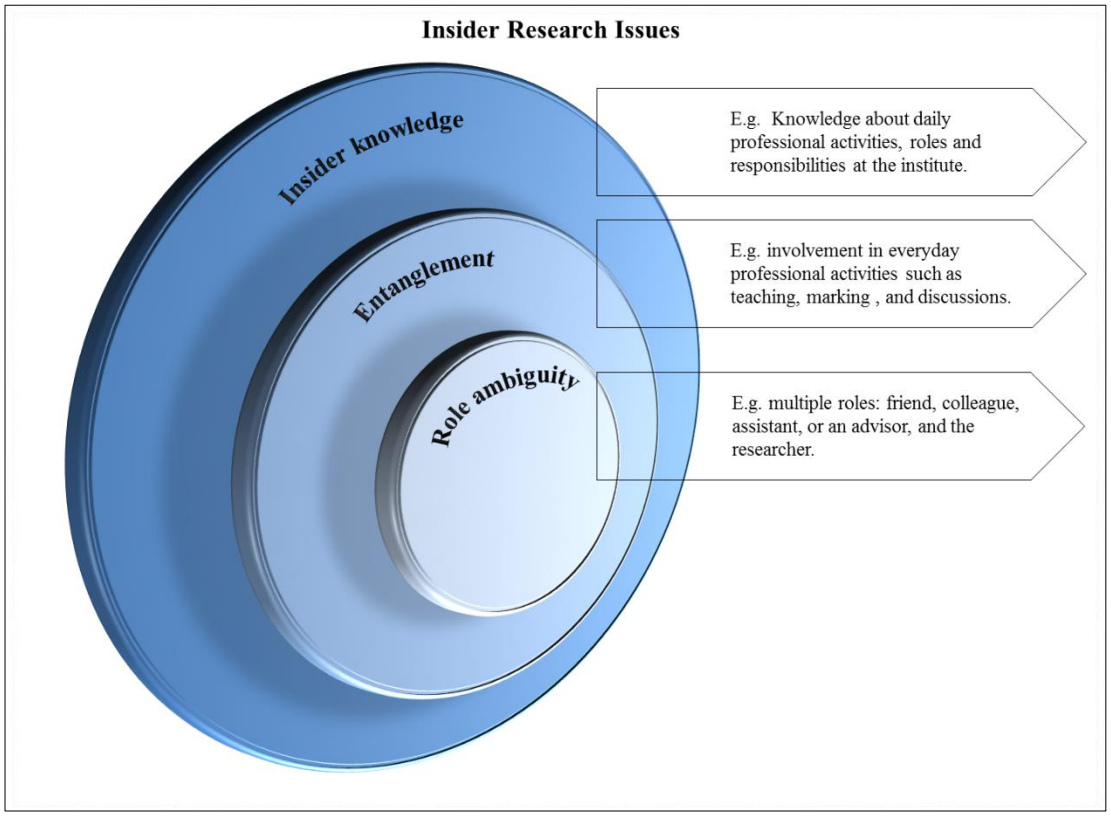


Figure 5. 6. **Insider issues, Source: (Adam, 2013)**

Insider Knowledge

Insider knowledge is the knowledge people have about their own experiences gained through either practising experiences or learning experiences. Often researchers come to research with an interest in seeking to know more about the topic and others' experiences in that regard (Burns et al., 2012; Gunter, 2004; Kanuha, 2000; Richardson, 1997).

As an insider, I was privileged in having an existing understanding my participants' daily professional activities, the normal routines of everyday activities and their roles and responsibilities at the institution. My institutional knowledge included expected institutional duties, the institution's mission, vision, goals, and the rhythms and structures. Because of my role as a colleague, initially, my participants appeared to have particular assumptions about what they should tell me during my initial data collection phase of interviewing. For example, when I asked specific question about their 'professional development programmes', some participants responded saying: "You already know about it", "You have seen it", and "You have also been part of it". In every situation like this, I probed with more questions to elicit specific information about their experiences. Coghlan (2007) argues that an insider is too close to the data, seeing this as a failure of the insider researcher role, further arguing that an insider researcher may assume that the participants will explain everything without much prompting, my experience demonstrates the opposite. DeLyser (2001) argues, on the other hand, that participants' over-eagerness may make it difficult to elicit the responses because they may want to engage in conversation about things that are not necessarily related to the specific questions. I experienced both of these issues at times, yet the probes and paraphrasing of my colleague conversation helped to manage the interviewing process. Secondly, a feeling of over-familiarity with my participants' professional experiences meant I had some difficulties in separating my own knowledge from theirs. At the same time, however, I could ask more challenging and specific questions related to my research. I think this is an advantage of an insider (Innes, 2009). For example, when I asked about the technology tools participants used for teaching, I deliberately probed, asking how these tools served their teaching or students' learning. While my insider knowledge about common tools available at this institute is similar to theirs, their views, intentions, and experiences were not always similar to mine.

I learnt to deal with such issues in a range of ways. For example, I wrote down my reflections about my feelings of sameness at the end of every interview. In these reflections, I focused on thinking back and forth about my own practice at the institution. This helped me to ask for more clarification with later participants. Second, I used a thinking aloud approach (sometimes recorded; other times written) about things I was

learning. It also included critical thinking about what I was experiencing at times. daSilva (2000) recognises that thinking aloud enables the person to listen to their own thoughts. This benefitted me throughout my data collection and the later analysis period. Thinking aloud is a way of sharing information with others as well as with oneself. Most of the times though, I used this process, when I came back in New Zealand, in conversation with my fellow doctoral students, in order to develop some distance and objectivity about my data. Through this, I came to understand the notion of 'they' (the participants) versus 'me' (the 'researcher') when speaking with my doctoral friends. I also became more aware of some of my own prejudices and views about different aspects; the more I talked through my thinking with others. The discussions with others and thinking aloud enabled me to understand and deal with my own thoughts and inner constructs. It also allowed me to draw a line between my own experiences and my participants'. Insider-researchers frequently experience entanglement in the research process. The next section explains how this influenced my research and its conduct.

Entanglement

As an insider, I experienced entanglement with my research participants. This term refers to being over-involved (van Heugten, 2004), engaging in 'over familiarity' (DeLyser, 2001), having 'over-rapport' (Miller, 1952), or even 'going native' (Kanuha, 2000). In a recent study, Tamboukou (2014) argues that entanglement could be challenging due to the nature of the research such as researcher's "intra-actions" (p. 623) involved in understanding the research phenomenon. Due to the nature of ethnographic methodology and my role immersed in the research process, my entanglement with participants made me confused and worried in the early stages of my data collection. In particular, I found it hard to decide which activities I should involve myself in and which I should not. However, as I continued with my hanging out activities, I found myself began drawn into helping my colleagues' teaching; preparing some of their PowerPoint presentations; discussing projects and assignments; and developing new modules. These took up more time that should have been devoted to my research project. I then became concerned about whether helping them would have an impact on data. Victoria (2011), for example, argues that helping participants is not part of the research work and thus it should be limited so that the researcher can maintain the researcher role in order to perform proper data collection processes. She believes that researchers must hold back. Hammersley and Atkinson (2007) similarly argue that researchers should not surrender fully to the research group by being over-involved. I was concerned enough to decide to discuss these issues with some of my participants in order to make roles between us clear.

In addition, I discussed these issues with other doctoral friends via chatting online while I was still in the Maldives. Our discussion and my reflections on what I was experiencing enabled me to manage my dilemmas and maintain my relationship with my participants in later stages of my data collection. These discussions helped me to overcome many issues relating to over-involvement and over-rapport with my research participants. To a certain degree, I managed to clarify my roles with them and prioritise my research work. Those experiences taught me to create some distance between me (as the researcher) and researched (the participants) and perform the dual roles of an insider and outsider during the data collection phases. Over time, I became much better at undertaking the researcher role rather than that of friend/colleague. On the other hand, I needed to be careful to not distance myself too much. Bryan and Deyhle (2000) suggest that the lack of distance enhances the research outcomes. Kanuha (2000) found the experience of gaining knowledge as an insider ought to be a natural connection, building on closeness and meantime achieving distance between the research and the research object. Though I was concerned about my over-entanglement with my participants, it benefited my project greatly when I could generate unanticipated data about their everyday habitual pedagogical practices. Therefore, I believed that though my insider role created challenges and dilemmas in my research process, it was pertinent to my understanding.

Besides entanglement, an insider-researcher often faces challenges because of role ambiguity when dealing with participants. The next section describes role ambiguity and what that has meant for me during my data collection.

Role ambiguity

Role ambiguity, role duality, or role conflicts are often considered part of an insider researcher's experiences in the research process (Coghlan, 2001, 2007; Coghlan & Holian, 2007; Moore, 2007). The insider researcher may juggle multiple roles and subsequently experience role conflict during the research process. Burns et al. (2012) argue that role ambiguity is experienced by the insider-researchers during the data collection process, which was true for me. As discussed previously, I was engaged in many activities with my participants involving multiple roles: friend, colleague, assistant, or advisor, as well as researcher. Even with all of these, I did not completely stop being part of their everyday activities, but minimised my involvement in other work outside my participants' workplace. Coghlan and Holian (2007) argued that often doctoral candidates face challenges while conducting studies in the institution where they previously worked. I had to devise a way that I could gain benefit from both sides (being involved with my participants and conducting my research). It was fortunate that over time I learnt to put on different hats throughout my research process (Roth et al., 2007).

Section Summary

The section has provided details about the research process and clarified some limitations which occurred during the data collection. First, I selected teacher educators who were potential participants for my research from a teacher education institution in the Maldives. I collected data from them through ethnographic processes which were divided into four phases. These phases were designed so as to inform each subsequent phase and enrich the data gathered. Data generation thus became a spiral process, complementing each other as illustrated in Figure 5.1. The first phase of data collection started using the hanging out approach, and at the same time, I carried out individual interviews with eleven participants. The preliminary finding of this phase guided me towards the second in which I observed classroom teaching of six participants and wrote a number of reflections regarding my experiences during classroom observations. After analysing the data of the first two phases and presenting some papers in conferences about the preliminary findings (in the University of Waikato – 17 October, 12 November, and 19 November, 2012). One year later, I visited my participants again. This became the third phase of my data collection. During this phase, I gathered data through focus group discussions, plus the hanging out activities and writing reflections. Finally, the last phase helped with clarification and validation of my findings. The section also discussed some insider issues in order to clarify limitations and increase trustworthiness of the research process.

Data Analysis Process

Qualitative data analysis (QDA) involves making sense of collected data in relation to both the research questions and participants' contexts. Dey (2003) suggests that QDA is important for "situating [people's] action, and of grasping its wider social and historic import" (p. 33). This idea was useful for my analysis as the aim of my research is to explore how teacher educators' shaped their pedagogy in the Maldives. Thus, any possible explanations generated ought to be in relation to my participant teacher educators' situated contexts. When analysing these data, I was mindful of capturing meanings and experiences that participants shared with me.

In order to make sense of data, I adopted two epistemological lenses in my analysis: grounded theory (Glaser & Strauss, 1967) and QDA (Seidel, 1998). Grounded theory is a way of qualitative analysis, which consists of features such as inductive generation of ideas, coding paradigm (looking for key words from data), and constant comparison (cross-checking) (Strauss, 1987). Grbich (2013) argued that grounded theory in this way helps the researcher to capture an in-depth understanding of the data for theorizing new

knowledge. For example, when I learnt about my participants' concentration on delivering knowledge in the initial phase of data collection, I discussed this understanding in the subsequent focus groups. This clarified many issues related to this trend. Later the same ideas were again discussed with my participants in follow-up interviews. However, adopting grounded theory only can lead to overlooking individual stories. This means that if I only focus on constant comparison, I may blindly compare between participants without necessarily concerning the marginal aspects in individuals. Ryan (2014) argues that grounded theory could lead to some mis-realisation of minority voices in the data. I thus believe, adopting another lens with grounded theory will help me overcome this limitation when generating my understandings.

Seidel (1998) describes three processes of noticing, collecting and thinking about things. This is a framework for undertaking the data analysis both during the collection phase, and afterwards. My intention was seeking in-depth understanding about what I noticed, collected and thought about teacher educators' pedagogical practices. I applied this process during each of the four phases of data collection, as outlined in Figures 5.2, 5.3, 5.4 and 5.5. This example demonstrates how both grounded theory and Seidel's framework worked together in my analysis. The two theoretical lenses were pertinent for my analysis as I started analysing at the very early stage of data collection rather than leaving the data analysis until the end of data collection. Suter (2006) and Patton (2002) both assert that qualitative data analysis emerges while the researcher is still in the field, and the process I undertook is evidence of this observation. Grounded theory and Seidel's (1998) QDA framework were suitable for my analysis as the categories and themes emerged inductively through revisiting data within and across different sources of data, and indicated that I was open to what the data generated as themes.

In order to embrace grounded theory and Seidel's (1998) framework throughout my analysis process, I used a number of digital QDA tools for managing and analysing data. Even though computer-assisted QDA tools have long been downplayed in making sense of qualitative data (Paulus, Lester, & Britt, 2013), I found a range of useful tools that served different purposes at different stages of my analysis. I used multiple strategies and tools to analyse the huge amount of data collected through various data collection methods (interviews, observations, focus groups, and the hanging out journaling). However, the strategies or steps of analysis were not pre-planned, rather they emerged as I continued with the analysis, and the tools were selected accordingly, depending on the purposes of the understanding desired to reach plausible answers in response to my research questions. Data analysis took place using a variety of digital tools during a six step analysis process. In each step the adopted tools served different purposes in the

analysis. These steps, tools, and related epistemology are outlined in Figure 5.7, and the explanation of the analysis with examples follows.

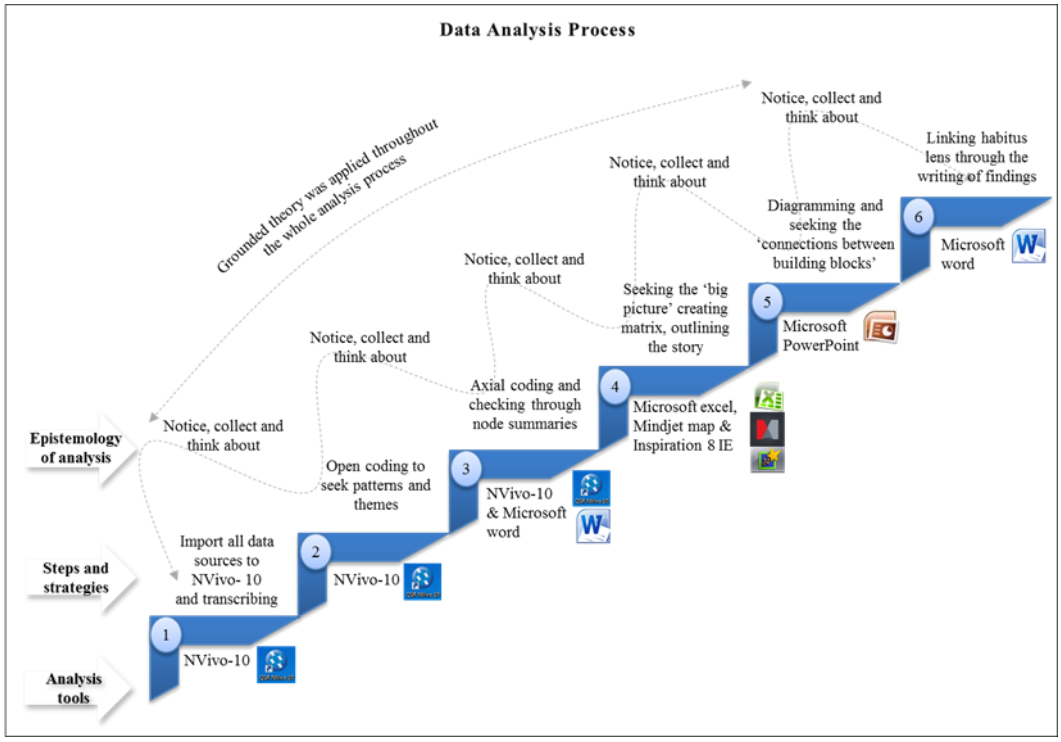


Figure 5. 7. **Data analysis process**

Step1: Import data sources to NVivo-10 and transcribing

The actual data, whether written or verbal, needed to be carefully documented in order to capture the actual understanding and meanings elicited from participants. Thus, I recorded all spoken data using digital recording software (iPhone application). Notes on observations were documented in my reflective journal. During this step, I undertook two activities: importing data to NVivo, and transcribing.

a) Importing data to NVivo:

I imported all data sources to NVivo-10 (QDA digital tool). These sources included audio recordings of interviews and focus groups, my observation notes and information on classroom infrastructure, and my reflective journal entries. Importing such data took place at different times in between various phases of data collection. Managing all data sources in one place was one advantage of using NVivo.

b) Transcribing

Transcribing is a crucial step in data analysis because it is where primary analysis starts. Transcription is a technical process which researchers undertake in order to represent spoken data in a written form (Bloor & Wood, 2006). Transcribing involves close

observation of data, becoming familiar with the content, and repeatedly listening to participants' conversations, expressions, tones, and pauses in their conversations (Bailey, 2008). I transcribed and translated all interview data in both our local language, Divehi, and English. I was mindful of capturing meanings that my participants shared when they spoke in English and took care with specific words when translating the Divehi recordings into English. The Divehi data sources included two interviews, five focus group sessions, and five follow-up interviews. Transcribing was very time-consuming. There were more than nineteen hours of recording (11 hours of interviews, 5 hours of focus group talk and 3 hours of follow up interviews). Though it took place in different phases of data collection, the transcribing process took longer than anticipated. The indicators I used to make the transcriptions clearer and comprehensive are provided in Table 5.2.

Table 5. 2. Transcript indicators

Indicators	Meanings
…	Indicates that some parts of the conversations are removed to concentrate on the focus of the point.
IN	Initial Interview
CO	Classroom teaching Observation
FG	Focus Groups
FJ	Hanging out Field Journal entries
F-IN	Follow-up interview
[square bracket]	Indicates that I wrote this to make the conversations clearer. For example when participants talked, they often use 'it' referring to various things. In that case, to make the verbatim clearer to the reader, I added explanations of one or more words between standing brackets.

Step 2: Open coding for seeking patterns and themes

Qualitative analysis embraces treating data bit by bit and assigning it into a category; that is, 'coding' data (Dey, 2003). The initial or open coding starts through "examining each line of data and then defining actions or events within it." Ikpeze (2007, p. 258). It also means "categorising segments of data with a short name that simultaneously summarises and accounts for each piece of data" (Charmaz, 2006, p. 43).Creswell (2007) believes that technology assisted analysis enables researchers to code data through reading line by line in a more systematic manner than coding manually. I applied this approach as I read through my transcriptions and created nodes in NVivo-10.

Initially, I started with interview transcripts, then observations, and then focus groups, and reflective journal entries. By reading line by line, I created free nodes (coding) on

whatever I found interesting, such as challenges, early experiences, perceived benefits, and ways of using technologies. The initial node folders and some created nodes are seen in Figure 5.8. This process of reading through each piece of data and creating nodes helped me seek the commonalities among my participants. At this initial stage, I managed to create a considerable number of nodes that helped me make sense of teacher educators' pedagogical practices.

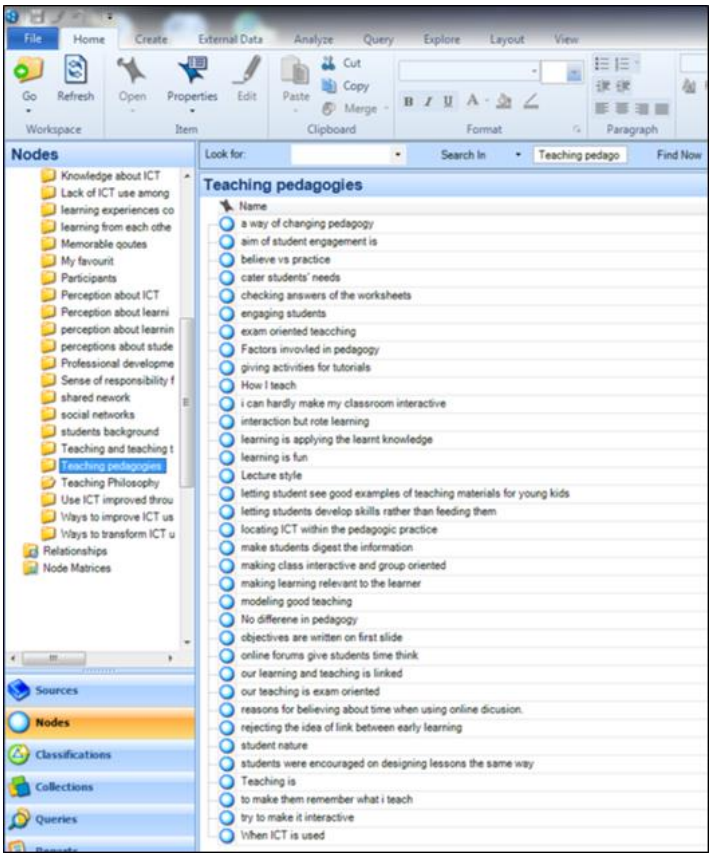


***Figure 5. 8*. Node folder and nodes in NVivo-10**

Coding generates the bones of the analysis, which then assembles into a working skeleton (Charmaz, 2006). The codes I created in this initial stage helped me to deepen my understanding as I continued with other sources, seeking code consistency of these codes across the data. To achieve this, I manipulated NVivo's annotations and memo links for clearing my thoughts and linking to references to participants' conversations, working iteratively back and forth. Over time, the codes changed and new codes emerged as I continued with my analysis. In particular, when summary reports (NVivo-node summary) were checked through. Table 5.3 demonstrates an example of this. In this way, I could check whether the created nodes represented the experiences of teacher educators. Dexter, Doering, and Riedel (2006) found that coded summary reports were useful to foresee the congruence between codes and the original data.

Table 5. 3. Example of coding and later change emerging in created codes

Changes	Node folder	Nodes created	Supported data and sources
Initial coding	Way of using ICT	To cover heavy content	I believe it is easier for me **to cover** most of **the content** in the class, when it's used it makes it easier to go back and forth while explaining. (IN)
changes occurred during	TE's pedagogical use of ICT	ICT as a pool of information	Mostly we use it for **searching information** through the Internet (FG). To **find extra information**, to find relevant **materials.** (FG)
A later time	Habitual pedagogical use of ICT	Using ICT for content transmission	She **asked questions** that led students' talk about several points she explained. However, mostly she made her students **rehearse the content** explained earlier. (CO)

As mentioned earlier, during the process of open coding I was also writing memos and annotations on different nodes. These memos and annotations were linked to my field journal entries and some reflections. For example, while coding conversations related to 'early experiences' (a created node), memos reflected on what I mentioned in my field journal. It was helpful for capturing an in-depth-understanding of conversations. According to Charmaz (2008), memo writing is the most crucial strategy for analysing qualitative data, particularly when coding. I, therefore, needed to identify reasons for selecting specific codes for specific conversations. Charmaz, in recognising that writing memos as a way of identifying categories and generating explicit stories, also helps to identify gaps in between concepts, gave me further direction. Memos are useful for capturing ideas and internal thoughts when analysing data (Charmaz, 2006; Richards, 2009) and this helped me connect the "building blocks" (Dey, 2003, p. 48).

During initial coding, I often adopted NVivo's memo option for assisting my analysis. I manipulated NVivo's annotations and memo links for clearing my thoughts and linking to references to participants' conversations. For example, when deciding a code, I justified my coding through writing memos. According to Bazeley and Jackson (2013), memos and annotation in NVivo enable researchers to reflect thinking and generate more ideas for analysing qualitative data. Through this process, I identified more gaps, inconsistencies, incongruences, and loopholes in my participants' data. Some of these memos include my voice and reflections regarding created nodes. One of this was a node created to categorise participants' views about technology's potential for increasing student engagement and interaction. However, through writing memos, I realised that their meaning of interaction was not concentrated on student thinking and enhancing understanding, rather it was merely concentrated on rehearsing the content they delivered.

Writing a memo was also useful for generating more ideas as given in the second example in Table 5.4.

Table 5. 4. An example of using memo in NVivo-10

Codes	Participants' conversations	Memos written
Interaction but knowledge centrism	When ICT is used, it's easier to open discussion, and it **can make the classroom much more interactive.** (FG) It makes the classroom more alive. Students **become more interactive, involved, engaged**, they get more opportunities to open their mind. (IN) We can make our classrooms much enhanced and **rich conversations can take place.** (FG)	I noted in my observation of classroom teaching, where participants try to interact and engage students during their lessons. However, the **interaction and engagement was more on discussion of the knowledge learnt or explained.** This was much evident in some participants' teaching as they **discussed answers to the questions and definitions** that students need to be familiar with. I also particularly asked some participants about this. What I learnt from their clarifications is that participants often tried **to engage students in order to make them learn the knowledge delivered**.
ICT makes teaching easier	**Instead of writing all notes on the board**, my teacher writes approximately 4 A4 sheets of writing on the board (FG). The best thing is that we go to the classroom **having all that in our slides** (FG). When just Google something or a topic which I need, I will get a **huge amount of materials** relevant to my lesson (FG).	Often my participants talked about technology and how it helps them to teach in classes. They believe that ICT makes everything easy in their teaching. This in fact is evident in all my participants' talk. Perhaps they adopted ICT because **it helps them teach more easily. I wonder whether the meaning of easy in these comments. Does that mean only what they need to do is dragging the materials into slides and delivering them?**

Writing memos and annotations also assisted me to learn many things that are contradicted within the conversations. For example, one of my participants mentioned many types of tools she uses in her practice. However, while reading through my journals, I realised the conversation was sort of the knowledge she knew about the technological tools, but was not entirely related to her practice. In my journal, I noted that this particular participant was stating listed tools such as Facebook, Flicker, and Twitter. However, in my field journal, I noted that she had few activities on her Facebook page. I also clarified my views about her Facebook activities in an informal conversation. Thus, writing memos helped me clear my thinking and learn more than what is mentioned in the interview conversations.

Step 3: Axial coding and checking through node summaries

Axial coding consists of techniques for intense analysis of categories. It means selecting one category at a time in terms of the variable that the researcher seeks understanding of

from the data (Strauss, 1987). It is unlikely to take place during any early analysis. Axial coding is an important element of grounded theory analysis. In this process, researchers consistently examine each code and categorise them through comparisons (Bloor & Wood, 2006). Axial coding in my analysis involved evaluating my categories, such as early learning and school learning. I examined nodes created earlier, checked through node summaries (NVivo-10 gives the summary of created codes with participants' conversations) in order to seek sub-themes in the research findings. An example of a category and sub-themes is illustrated in Table 5.5.

Table 5. 5. Example of axial coding

Main category	Sub-categories	Participants' conversations
Early learning experiences	Accepting the knowledge as transmitted by teachers	We obey our teachers' instructions. We quietly listen to what teachers explain. Thus, we learn, rehearse the knowledge until we become fluent in the reading of the whole text. (F-IN)
		Teachers' instructions whether written or verbal are normally copied as they are because we don't doubt about the knowledge he/she explains. We know that they are always right. (IN)
	Note taking	Teacher dictates or writes notes on the board. We [her classmates] have to write sometimes A4 size 4/5 sheets in every class. (IN)
		She normally writes the notes on the board, and we will copy them in our exercise book. (IN)
	Text book teaching with exam-oriented approach	In English the teacher will give parts from text books to read, and reading comprehension in a worksheet. Students don't get many choices even answering them. (IN)
		Sometimes the teacher will allocate parts to read aloud during teaching. When we read she will explain the parts. (IN)

Harding (2013) suggests that when commonalities, patterns, and themes are identified, it is necessary to use a constant comparison between different sources of data and across different participants. Since my research used various data collection methods it requires an analysis process that explores data within and across sources. Reading through codes by using the NVivo node summary reports (NVivo option) and drafting some parts in Word documents helped me notice and collect more ideas about aspects that were congruent in terms of answering my research questions. According to Seidel (1998), qualitative analysis is more than coding, sorting and sifting. He suggests that the themes, patterns, and categories can be checked, rechecked and redefined to generate a comprehensive understanding of data. Axial coding is different from the previous step of open coding. This step therefore, helped me identify discrepancies, contradictory ideas,

surprising features, and characteristics in my data. This process also guided me towards my next step of analysis.

Step 4: Seeking the big picture

Roberts and Wilson (2002) claim that NVivo might result in a researcher risking "losing contact with the context and meaning of raw data by too much data manipulation" (p. 11). Their concern was related to not being able to capture the full story of the data. They also thought that researchers may misinterpret or be misled by having too many nodes. Seidel (1998) argues that qualitative researchers need to look for unexpected or unpredicted blind spots in the data. In addition, Dey (2003) suggests that sometimes categories can be fuzzy, overlapping, not tightly defined, or vague. Some of these issues emerged in my analysis. Though the previous step enabled me to see the commonalities, I was not completely convinced of my preliminary findings because I could not yet outline teacher educators' journeys. As a result, I carried out three main activities with three different tools for capturing a better understanding: creating a matrix, developing a landscape representation, and developing a visual overview.

a) **Creating a matrix:** I created a matrix of all my participants including important components that describe elements of their technological and pedagogical practice. For example, their background, tools they used, their pedagogies and other important areas (Figure 5.9). This matrix enabled me to see things more clearly regarding some differences and similarities in terms of their adopted tools. It also enabled me to identify some institutional barriers that had perhaps influenced teacher educators' shaping of pedagogies. For example, in this matrix, I come to recognise that the tools my participants avoided using were mostly complained about. This information was pertinent for understanding the influence of institutional factors on teacher educators' practice.

b) **Developing a landscape representation:** As discussed earlier, since my themes kept changing, I needed another space to see conversations and how they were connected to each other in one space. I dragged important episodes of the story into one space that was similar to a 'landscape representation' (Seidel, 1998) where I could easily check through the conversations and the created codes simultaneously. I found Mindjet, a mind mapping tool as a convenient space in which I could work with Microsoft word. In a Microsoft word document, there is an option to transfer participants' conversations to Mindjet. It allowed me to iteratively check through the themes and conversations and switch things to different parts of the findings in the same space, as in Figure 5.10. That helped me map out the teacher educators' journey. According to Seidel (1998), when coding, sorting or sifting data into patterns or themes, I needed to look for unexpected or

surprising things by using such topographical maps. In this sense, when data were sorted into themes, patterns, and categories in one space, they more clearly formed parts of the story I sought to understand.

c) Developing a visual overview: I wanted to see a graphic representation of participants' shaping pedagogical practice. Inspiration 8 IE, another mind mapping tool, was convenient for designing individual participants' journeys in graphic representation. I could then anticipate the main episodes of individual journeys. One example of this is given in Figure 5.11. In this analysis step, by manipulating three different tools, I had the building block of my findings for understanding teacher educators' shaping of their pedagogy. However, I was seeking more than an understanding of the journey. Rather I sought to conceptualise how their specific pedagogy was shaped through their cultural context. This led me to the next step of my analysis with another tool.

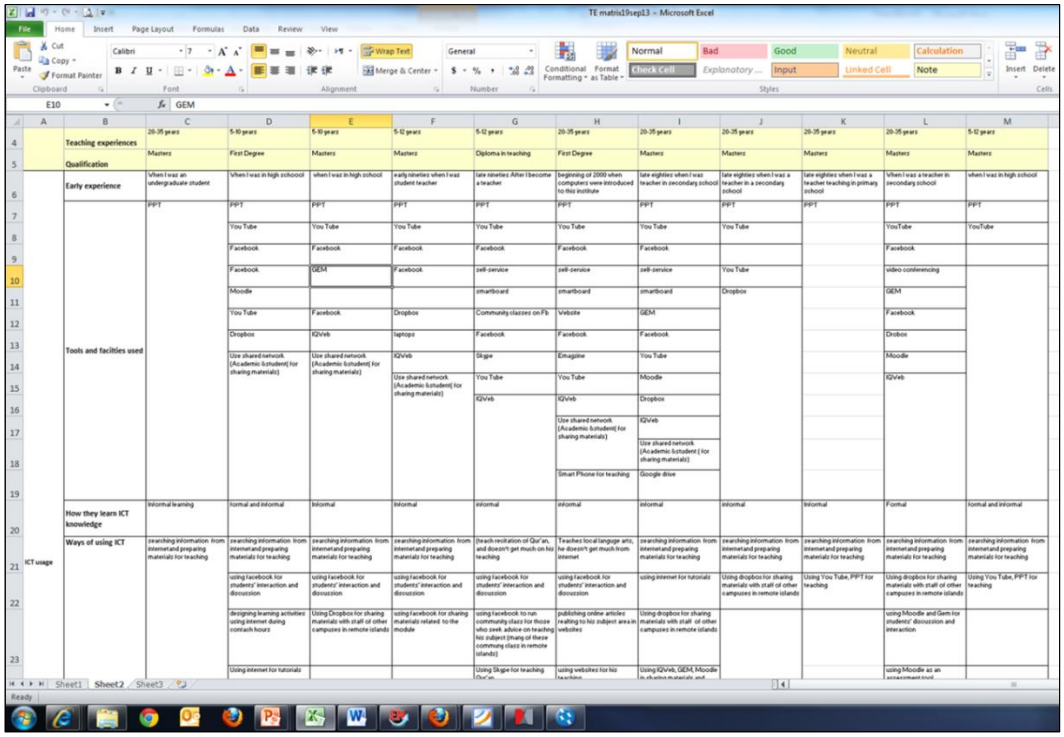


***Figure 5. 9*. Example of matrix**

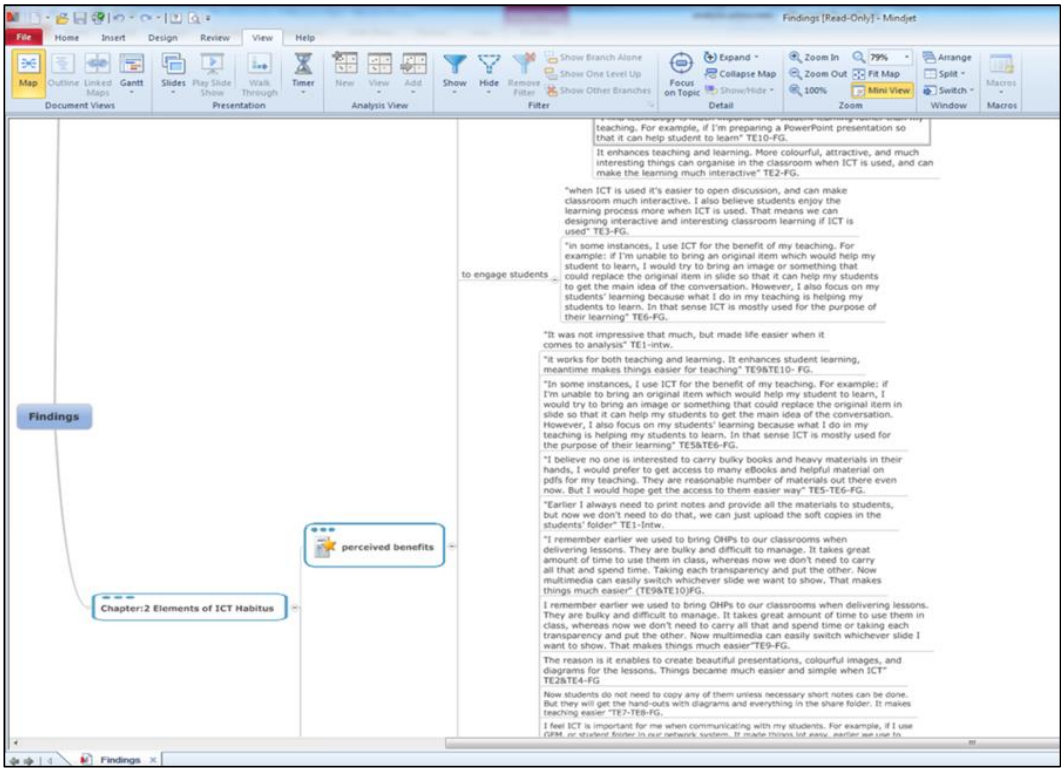


***Figure 5. 10*. Example of using Mindjet**

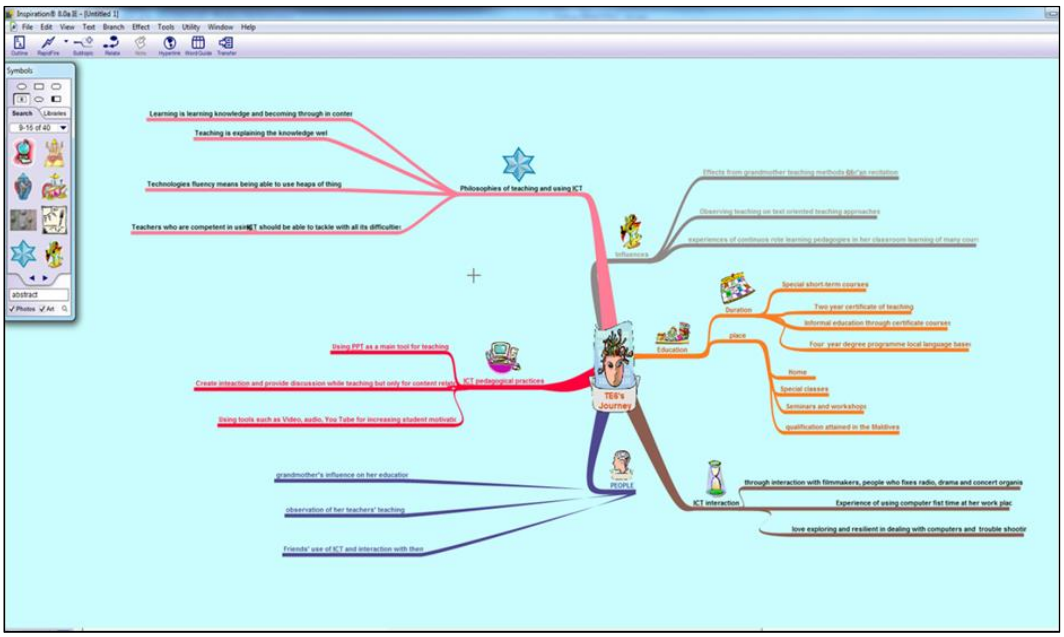


***Figure 5. 11*. Example of using Inspiration 8 IE**

Step 5: Diagramming to see the connections between 'building blocks'

Bazeley and Jackson (2013) argue that researchers continue to hunt around for suitable programs that support their analysis. PowerPoint became a useful tool for diagramming my thinking, using it to visualise various concepts, such as cultural influence, early learning experiences or institutional factors. These concepts themselves do not explain much about the journey of shaping technological and pedagogical practice, but need to be

put together in order to generate an understanding of how teacher educators' pedagogy was shaped. In qualitative analysis, connecting meanings and concepts is inherently important. Without them the big picture would not be fully understood. Dey (2003) says "building blocks… But building requires more than blocks, the blocks must be brought together" (p. 48), conceding the importance of connections between concepts in order to theorise and conceptualise in-depth understanding. Buckley and Waring (2013) say that diagrams help a researcher conceptualise relationships between concepts. Through diagramming, I created visual representations of concepts emerging from different analysis steps, particularly those about the shaping of habitus and I diagrammed them in six different ways. I drew these diagrams on the basis of some thoughts and questions that emerged. Examples of these are:

- Do teacher educators experience tensions in the pedagogical context? (Appendix G);
- Are teacher educators' pedagogical practices influenced by their own background and the institutional context? (Appendix G);
- Is teacher educators' pedagogy culturally embodied? (Appendix G); and
- Is their pedagogy shaped through ''layers'? (Appendix G).

In this way, I continued creating diagrams until I found the most relevant and appropriate explanations for how teacher educators' technological and pedagogical habitus were shaped. After creating each diagram, I analysed it by explaining it to some doctoral colleagues and my supervisors, and checked what they understood from the visual representations. I realised that every diagram helped me to refine and build more connections between the concepts that emerged in the early stages of analysis, and explaining the diagrams to someone else also helped clarify my interpretations. A range of these are covered in the discussion chapter, while other diagrams are in Appendix G.

Step 6: Linking the habitus lens through the writing of findings

The diagramming approach helped me learn more about teacher educators' journeys regarding the shaping of their pedagogical practices when they used digital technologies. However, I needed the habitus lens to be visible throughout my writing. In this phase, my writing became a form of analysis. Richardson (2005) argues that writing enables researchers to construct knowledge about the researched area. At times, I wrote stories about specific participants, about how they started using technologies, started their career of teaching, their early education, their higher education, and their classroom practices. In this stage, I used the visual stories created through Inspiration 8 IE and diagrams along with my field notes, and data from other sources. I often I returned to original transcripts and memos. During this process, the theoretical lens of habitus helped form the big

picture in understanding my participants' practices. When writing about teacher educators' early learning experiences, for example, I interpreted them through habitus, for they appeared to influence participants' pedagogical thinking and practice. This process of writing supported me in reflecting on what I understood about my participants' practice through the habitus lens. Table 5.6 summarises the analysis process discussed above.

Table 5. 6. Data Analysis summary

Steps	Tools	Activities carried out	Useful outcomes
Importing & transcribing	NVivo-10	- Import all data sources and organise them into folders. - Transcribe all interviews Translate all local language spoken interviews	- Enabled me to manage all data sources in one place. - Allowed me to write memos on what I learnt from the hanging out approach - Allowed me annotate some parts of the transcripts when necessary.
Open coding	NVivo-10	- Read data line by line - Create codes on any conversation relevant to my research focus - Write memos and annotations reflecting on field journal entries.	- Enabled me to understand the piece by piece - Led me to identify common themes and patterns across participants and across different sources of data
Axial coding	NVivo-10 & Microsoft Word	- Create node summaries - Read through and code each conversation - examine themes - Export the created codes to Word document - Read through the codes and write some interpretations	- Examined how themes were connected with the conversations - Allowed me capture the context meanings and experiences pertaining to these conversations
Seeking the big picture	Microsoft Excel Mindjet Inspiration 8 IE	- Create a matrix by using the main concepts - Develop a landscape representation in Mindjet - Create a visual overview of individual participants' journeys	- Allowed me to capture in-depth story of teacher educators. - Enabled me to achieve the main concepts associated with the shaping of pedagogical practice - Allowed me to seek the missing pieces of the story - Enabled me to look for what is not realised or not captured

Steps	Tools	Activities carried out	Useful outcomes
Diagramming to see connections between building blocks	Microsoft PowerPoint	- Examine each concept with the conversations - Diagram more than six different explanations for how teacher educators' pedagogical practices may have been shaped	- Allowed me to achieve a holistic understanding of how pedagogical practice is shaped - Enabled me to produce a framework for understanding pedagogical practices of professionals in light of habitus lens
Linking habitus lens through the writing	Microsoft Word	- Write trajectories for each teacher educator - Write vignettes for specific episodes linking with habitus lens	- Enabled me to provide thick descriptions about what is occurring in teacher educators pedagogical practice - Allowed me to anticipate in-depth understanding of embodied cultural phenomenon associated with teacher educators' shaping of pedagogy.

Ethical Considerations

Taking account of ethical considerations in any research endeavour is imperative. Ethics are guidelines and principles that serve good professional practice in conducting research (Bloor & Wood, 2006). Many universities require ethics approval to be sought before undertaking any research project. In the case of my research, ethical approval from the University of Waikato was sought and granted (Appendix H). However, Macfarlane (2010) argues that taking account of ethical considerations is not simply gaining ethics approval for conducting a research study; rather it involves what happens in the field of research and how the researcher manages whatever arises. Dahlquist (2006) describes two important dimensions in this regard: research ethics and researcher's ethics. Research ethics involves rules and considerations that need to be taken into account while conducting research, whereas researcher's ethics relates to moral obligations such as honesty and objectivity when presenting and interpreting findings. Linking both research ethics and researcher ethics, Freeman (2011) presents five ethical principles for researchers to evaluate when making decisions: respect for autonomy (respecting the human capacity of self-determination); beneficence (doing good or acting for the benefit of others); non-maleficence (do no harm); justice (fairness of deciding the rights and deserts); and fidelity (being honest with and respectful of respondents and to the data). Some of these principles such as respecting participants' autonomy, doing no harm, and

being honest and respectful towards respondents and to the data are pertinent for my research process due to the nature of my ethnographic approach.

Ethics in ethnographic methodology involves the researcher's intimate contact with human beings in the real life contexts. Addressing this, Merriam (1998) argues that ethical dilemmas in qualitative research are most likely to emerge from the data collection and the reporting of the findings. Ethics are, therefore, associated with the researcher's every day actions and decisions that manage and uphold ethical standards (Bloor & Wood, 2006). The next part explains how these ethical considerations are related to obtaining access to participants, informed consent from participants, confidentiality and anonymity, and avoiding harm.

Access to Participants

According to Cohen et al. (2007) researchers should seek official permission prior to conducting research in an institution. In my research, access to participants was achieved through the permission letter by the Dean of the institution. I achieved this as follows:

- Initially, I sent a letter of request including necessary information about my research. I was granted approval via email prior to my data collection; then
- Participants' individual consent was achieved after I explained my research to potential participants.

As an insider-researcher, I was completely aware of ethical considerations that I needed to be mindful of with regard to institutional rules and regulations at the institution since I had worked there. This institution is a professional workplace and I was conscious of the respect I owe to each participant as well as to other professionals who work in this institution.

Informed Consent

In my research, the consent process is a way of informing my participants about possible issues to consider in advance so there are few surprises. Consent is a process whereby the researcher allows the potential participants to think freely and voluntarily decide to participate. Erlen (2010) offers several precepts for practitioners/researchers. These include that informed consent should be gained on the basis of self-determinations, protecting of human dignity, and respect for persons. These precepts, she argues, will lead the researcher to observe participants' rights, such as privacy, confidentiality and anonymity. Apart of from these precepts, Banister (2011) argues the need to outline elements such as details about data collection methods, time, process, potential harm, and how their data will be used in the thesis.

I gained consent in three steps. First, I prepared an information letter and sent it to the participants. It included the information about my research and the possible ways that participants may engage in the research. Second, at the outset of my data collection, I invited potential participants to a meeting. In this meeting, I explained my research and how they may possibly engage and issues that may arise during the data collection. Third, to ensure their voluntary participation, they were given time for any queries, before agreeing to participate.

Avoiding harm

Protecting participants from harm is a moral and ethical obligation that the researcher is required to observe during the whole research process, and it is a way of ensuring participants' protection that the information collected will not be exploited to any extent. Cohen et al. (2007) advise that researchers uphold an ethical and moral responsibility to protect participants from possible harm. Participation in social science research may potentially affect or cause humiliation, embarrassment, loss of respect and self-respect and other emotional discomfort (Given, 2008; Stake, 2010). This is why harm is such an important potential effect to avoid where possible.

In order to do so, I made ethical decisions on several issues that I encountered during my data collection. Firstly, because of my insider position, my participants openly discussed many personal matters not necessarily related to my research. Much of those conversations resulted from stress, helpless feelings, workload, and issues relating to the authorities at the workplace. I presumed that it is perhaps they wanted someone to listen to their concerns. However, I made sure that these conversations were confidential. Secondly, as my participants were teacher educators who had very busy schedules, they taught twelve to fifteen hours per week. Apart from teaching, they also undertake lesson planning, marking assignments and other urgent duties. Often they needed to address these during their work hours. In addition, some of my participants were heads of departments. They were involved in many committees/boards. It is this group who most frequently changed the interview time with me. Although this created great difficulties and pressure on my data collection process, I needed to accommodate these changes to avoid any possible pressure on them due to their participation in my research.

Confidentiality and Anonymity

Confidentiality and anonymity issues are closely linked with the right of participants to protection. I deliberately anonymised their identities as a way of respecting their personal and professional identity. The two concepts (confidentiality and anonymity) can be considered as two sides of one coin. Wiles, Crow, Heath, and Charles (2008) explain that

confidentiality involves keeping the shared experiences and the information between the researcher and the participant, whereas anonymity refers to the actions that researchers use to protect the identity of participants when their data is quoted in any research outputs such as presentations, articles, or in a thesis.

Several issues arose relating to confidentiality and anonymity through my data collection and analysis. First, some of my participants did not take confidentiality and anonymity seriously. In this workplace, where everybody meets and interacts with each other on a daily basis they talked with each other, revealing their participation to others. Moreover, some participants wanted me to use their own names instead of pseudonyms. Many researchers argue about participants' wishful and wilful thoughts about revealing their identity (Ntseane, 2009; Wiles et al., 2008; Yu, 2008). However, regardless of their requests, I did not disclose any of my participants' original names or identity to fulfil my ethical obligation towards them.

Second, in the focus group context, participants identified who they are and what they talked about. However, I was mindful of these issues when selecting that method, thus I gained participants' consent based on the understanding that everybody would interact with each other. Third, my research involves a group of teacher educators in one institution in which they can be identified if the institution is known. Wiles et al. (2008) argue that managing confidentiality and anonymity issues may be challenging when researching in an organisation in which the identity of the participants may not be completely anonymised. As a result, many researchers decide to change key characteristics of participants if they find any such background information could lead to identification. As my research involves gathering data from a predominantly female group, revealing their individual gender can lead to identification of some of my participants. For this reason, I created female pseudonyms for all my participants (though there were two males). Since my research involves understanding teacher educators' pedagogical and technological practices, revealing their gender is simply a matter of providing their backgrounds which has nothing to do with my aimed for understanding.

Fourth, Wiles et al. (2008) distinguish two types of disclosure. One is deliberate disclosure which often takes place whereby the researcher is obliged to disclose because of legal issues or information about vulnerable participants, such as children. Another is accidental disclosure which may arise due to situations or incidents where the researcher accidently breaks the confidentiality of the participants. Nevertheless, they further explain that researchers need to discuss issues that may arise such as emotionally challenging issues, feelings of discomfort, difficulties, or simply emerging issues. However, they also

advise that a researcher ought to be mindful of not breaking confidentiality or anonymity accidentally, such as 'letting something slip' over the conversations. In my case, as I am an insider-researcher I sought to discuss many issues relating to my data and insider experiences with my supervisors and other doctoral candidates once back in New Zealand. However, I continued to be mindful of not disclosing any participant's identity. I also ensured my conversation to be a means of detaching from my insider knowledge and managing the insider issues relating to the notion of 'they' versus 'me'.

Apart from ethical considerations taken into account during the research process, I also maintained the trustworthiness and credibility of my research as explained in the following section.

Evaluation of the Research

Qualitative researchers are often criticised for their subjective approach to their research process (Denzin & Lincoln, 2000). It is, therefore, crucial to ensure the trustworthiness of the research process by explaining the underpinning considerations that researchers have during the research process. Maxwell (1996) confirms that the validity of qualitative research can be associated within three types: description (accurately recording data whether heard or seen); interpretation (capturing the meanings attached to words and actions); and theory (considering discrepant data and with alternative explanation). In order to promote my research's validity, I used several strategies throughout my research process: transparency, reflexivity, and triangulation.

Transparency

Parker (2005) offers the idea of three audiences in qualitative research. This helps ensure accountability by being transparent to oneself and others, including the participants, and other research communities. Adopting a transparent stance means acknowledging the limitations in terms of dilemmas, challenges, and uncertainties for being transparent to the audiences (Duncan & Watson, 2010). In order to do this, first of all, after data collection, I carefully transcribed all the data myself, and then sent the transcriptions to participants for their member checking, so they could check data accuracy and confirm what they shared (Cho & Trent, 2006). My participants could suggest any changes to or clarifications of the transcripts. Further, I discussed various examples of notes written through the hanging out approach, and the classroom observations in order to be transparent and also to clarify and confirm the data I gathered. The clarifications were pertinent for being transparent in my research journey.

Secondly, during data collection, I was always mindful of certain considerations such as keeping records, writing notes and reflections throughout my research journey. These considerations were pertinent to my insider researcher status as well as the research process. I disclosed a number of dilemmas (examples are given in Appendix E) and several emerging issues related to insider-researcher status (refer Managing insider issues), which provides ample information about the degree of my transparency and the careful documentation of records in this research project. Richardson (1997) and Inckle (2010) described their research journeys and emerging dilemmas in order to be transparent to the research audience. This inspired me to aim for transparency too. This is for my research audiences, as for me, my research participants, and readers of my thesis.

Thirdly, I documented the entire research project. This includes the codes, memos, annotations, and reflections in NVivo. It documents the data and records of research project safely, which also helped me develop the habit of checking through simple details of the research project (Bringer, Johnston, & Brackenridge, 2004). This also proves my intention of being transparent to my own researcher self as well as to my participants and the data.

Reflexivity

Self-reflexivity is one way of ensuring credibility in qualitative research (Bott, 2010). Reeves et al. (2008) argue that reflexivity is "a central element of ethnographic work, owing to the relationship the ethnographer shares with participants" (p. 513). Ellingson (2009) believes that describing the research journey in terms of its complications, challenges, and the issues experienced by the researcher is an integral part of explaining the degree of reflexivity in qualitative research. Richardson (1997) argues that being reflexive enabled her to define her relationship with the researched that helped her to detach her thoughts from her participants' thoughts. As I am an insider-researcher, I used a range of techniques that were related to Richardson's description of this process, in terms of understanding my insider issues and explaining my challenges and dilemmas during the research process. I discussed and examined my insider issues in a number of conferences and publications as part of becoming reflexive in my research process. This reflexivity idea is supported by many researchers, who argue that it is part of making "explicit self-aware meta-analysis" (Finlay, 2002, p. 209), and engaging in self-reflection to better understand the researcher and the researched positions (Kralik, 2005). Furthermore, Glesne (2011) argues that it is understanding emerging issues and challenges, which in turn enables the researcher to lessen his/her biases and increase the trustworthiness in the research process (Minichiello & Kottler, 2010). However, Finlay (2002) argues that it depends on the nature of the methodological aims and the exercise

being carried out in the research process. She further claims that being reflexive is to share "realist tales" and "confessional tales" that researcher experiences during the research journey.

Levinson (2010) experienced being immersed in an informal role instead of a traditional researcher role. He was candid in expressing being involved in many informal activities to a degree that it was subconsciously immersed in his own identity. However, he recognised this as a vital part of the research and described the dilemmas he had in an honest and transparent manner. He further argues that immersion in informal activities could be inevitable for a qualitative researcher, in particular to a novice researcher at the early stage of research, because the nature of qualitative research is bounded by uncertainty and messiness. In her research, Bott (2010) discusses the concept of 'othering' as a way of becoming reflexive which also enabled her to understand her research journey and ensure the credibility of her research process. Thus for me, reflexivity is dealing with research issues that emerged in my research process in order to pursue several aims, which are:

- to balance my insider and outsider perspectives;
- to provide possible explanations that could justify my own concerns and issues; and
- to become aware of my 'blind spots' in the data to better capture the in-depth 'stories' of the researcher and researched.

Pursuing these aims, I adopted several reflexive techniques: writing a reflective journal, thinking aloud, and creating diagrams – several of which are included in this thesis.

Firstly, I used a range of **strategies for writing a reflective journal** (Appendix E) that include:

a) **Using Seidel's (1998) model** (notice, collect, and think) approach throughout the whole data collection period;
b) **Using the three types of reflections** suggested by Schön (1987);

i. reflection-in-action (writing journal about my participants' interviews);
ii. reflection-on-action (after completing an interview or observation, I wrote certain things that are similar of different experiences in the notion of 'me' versus 'they');
iii. reflection-for-action is more or less relating to deliberate and intentional reflection. This means that reflection-for-action is a type of thinking that I needed to be aware of when I analysed, generated and concluded emerging findings of the data. This lessens the effects of my biases when generating my findings; and

c) **Using an 'imaginary friend'** with whom I interacted about a number of concerns during the writing of my journal. Many of these were relating to uncomfortable or confused feelings. Richardson (1997) argues that writing is not merely generating knowledge, but it enables the discovery of concerns within oneself when researching. Examples of these reflections can be found in Appendix E.

Secondly, I adopted the 'thinking aloud' approach to learn about issues associated with my participants' and my journey in understanding shaping specific pedagogical practices. daSilva (2000) recognises that thinking aloud enables listening to one's own thoughts. I used this approach with my doctoral colleagues and supervisors. Thinking aloud is a way of sharing information with others as well as within oneself. This occurred in research group discussions with doctoral student colleagues at our university while private thinking aloud took place when I was diagramming my data (some of these were recorded and in written form). Both ways helped me to understand the notion of 'they' (the participants) versus 'me' (the researcher). I also learnt that using think aloud with my supervisors often have surfaced issues about my inner thoughts regarding the insider-outsider 'divide'. Coghlan and Brannick (2005) acknowledged this as a way to balance insider-outsider knowledge in doctoral candidates' research in order to bring two perspectives (insider-outsider) together in one dialogue. Bott (2010) argues that the main purpose of reflexivity is "to constantly locate and relocate themselves within their work" (p.160).

Thirdly, I embraced the technique of diagramming my thinking and creating illustrated figures as ideas emerged in my data. Buckley and Waring (2013) argue that using diagrams helps a researcher to become reflexive and transparent. I created various concepts maps and profiles for each of us (the researcher and the researched) in terms of some highlights (education, experiences, early professional career, and other aspects). This helped me to learn my participants' stories relating to their professional experiences and to draw a line between me and my participants whenever I reflected upon the emerging ideas in my data. Richardson (1997) emphasises this as a way of being reflexive which inherently links to the degree of understanding of oneself prior to 'other' (the participants).

Triangulation

According to Given (2008), qualitative research can increase its credibility and validity through triangulating a variety of data sources. Simply, it is to "look again and again, several times" (Stake, 2010, p. 123). Creswell (2007) argues that triangulation involves "corroborating evidence from different sources to shed light on the theme or perspective"

(p. 208). This means it is "a form of confirmation and validation" by giving respect to multiple points of view collected from different sources of data (Stake, 2010, p. 123). Bloor and Wood (2006) assert that it is a systematic comparison… often portrayed as a procedure of validation by replication" (p.170). These views suggest that triangulation helps a researcher validate the meanings and experiences of participants accurately in the presentation of the finding. Due to the nature of my ethnographic methodology, I used various data collection methods and techniques that allowed me to "cross-check the accuracy" of the data gathered (Goetz & LeCompte, 1984, p. 9). The triangulation process in my research was represented in several forms: through episodic phases; through multiple methods; through the different natures of data collection methods; and within and across participants; as illustrated in Figure 5.12.

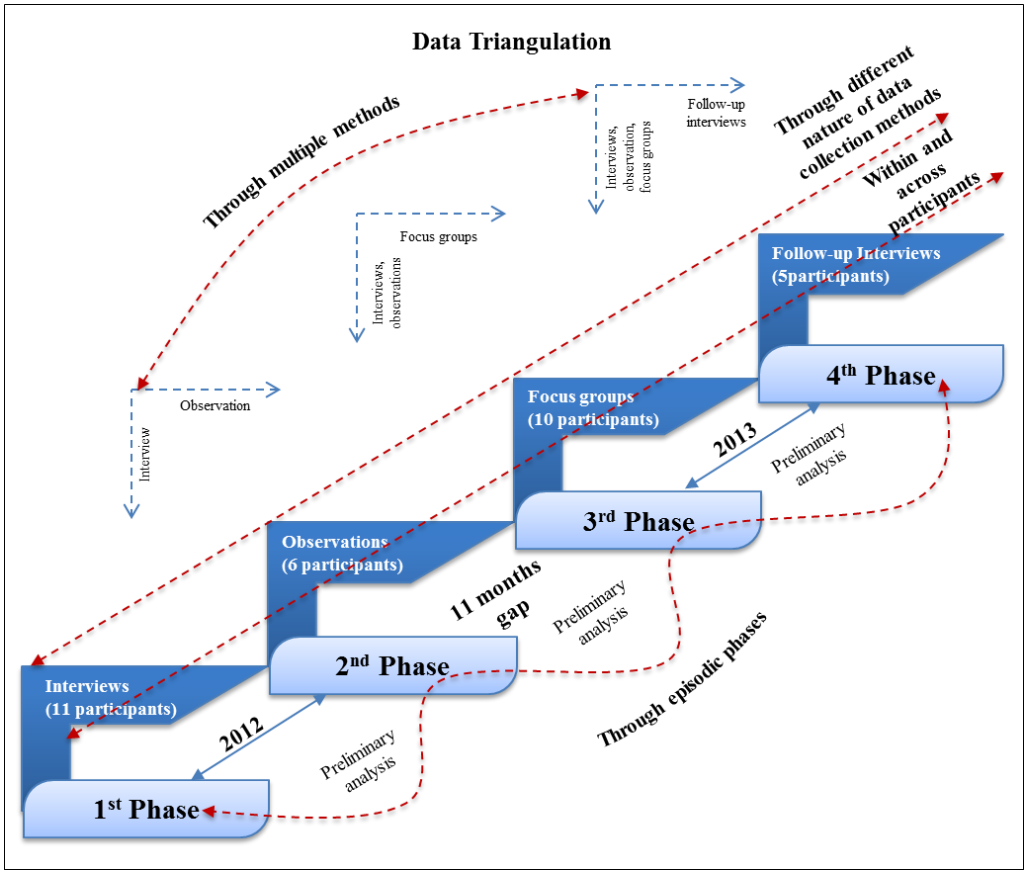


***Figure 5. 12*. Data triangulation**

1) Through episodic phases

As outlined in Figure 5.12, I had four phases of data collection over two years (2012 and 2013). Mabry (2008) argues that triangulation can be achieved over time through data collection over extended periods. My 2 years of data collection involving repeated visits and interviews, fits this definition. Collecting data through phases at different periods of time enabled me to triangulate my understanding and validate my findings. More

specifically, in each phase, I analysed data prior to the next phase of data gathering, which helped me always cross-check my understanding. The main purpose of the last phase of data collection was confirming and seeking more clarity about the main findings.

2) Through multiple methods

Data were gathered through multiple methods such as interviews, observation, focus groups, and the 'hanging out' approach. Triangulation therefore, was achieved through both data collection and data analysis processes. For example, as illustrated in Figure 5.12, I analysed each data set collected prior to moving to the next data collection method. The methodological triangulation involves checking data collected from different methods, as suggested by Mabry (2008).

3) Through the different natures of data collection methods

According to Flick (2004) and Maxwell (1996), triangulation of data sources can be achieved by having different kinds of data, such as interviews and focus groups (verbal), or observation (visual and field notes). The logic of triangulation is that no single method can adequately provide accurate understanding. Maxwell (1996) asserts that different methods enable the researcher to reduce the "systematic biases or limitation of a specific method" (p.75). He also illustrated this by suggesting that observation leads to a "description of behaviour" (p.76), while and interviewing gains individuals' perspectives. If both are employed, "triangulation of observations and interviews can provide a more complete and accurate account than either could alone" (p.76). Figure 5.2 illustrates that data of each source is different in its nature.

I started with individual interviews, checked what my participants said through my own observations and hanging out field notes, discussed what I understood in focus groups, and finally the main understanding was cross-checked. These ideas completely align with Stake's (2010) view of confirmation achieved through several iterations of collections and analysis. Using different nature of methods enabled me to examine data collected from different perspectives as suggested by Patton (2002).

4) Within and across participants

My research involves understanding individual participants' journeys in shaping their pedagogical practices. Multiple data collection methods with the same participants were pertinent in my study. Table 5.7, a matrix of methods and participants, aiding triangulation purposes, and helped me examine the consistency of the data collected about individual cases.

Table 5. 7. Participants' involvement in multiple data collection methods

Participants	Initial interview	Observation	Focus group	Follow-up interview	Hanging out
Alia	✓		✓	✓	✓
Dhimna	✓				On-leave
Faiha	✓	✓	✓		✓
Haula	✓	✓	✓	✓	✓
Lamha	✓		✓		✓
Meera	✓	✓	✓	✓	✓
Nisha	✓	✓	✓	✓	✓
Raufa	✓		✓		✓
Shaina	✓	✓	✓	✓	✓
Yusra	✓	✓	✓		✓
Zeena	✓		✓		✓

To conclude, my evaluation of research is aimed to be transparent, to be reflexive, and to triangulate data gathered in my ethnographic process, as summarised in Table 5.8.

Table 5. 8. Summary of research evaluation

Evaluation aim	Techniques employed
To be transparent	- Discussed limitations in each data collection method, ethical considerations maintained in the research process and disclosed insider issues to increase trustworthiness of the research.
To become reflexive	- Employed various techniques for writing reflections. - Adopted 'think aloud' approach for disclosing my internal thoughts and separating my views from participants'. - Diagrammed and visualised concepts to seek clarity in terms of conceptualising the main findings of my research.
To triangulate data gathered	- Validated data through different phases (four different phases), multiple methods (interviews, observations, focus groups, and the hanging out activities, and different nature of data sources. - Cross-checked with individual cases by collecting data through various methods with the same participants.

Chapter summary

The chapter provides details about the process of research. It is divided into four main sections. Firstly, it describes the research process starting from the selection of research site and participants followed by data collection process. Secondly, the section explains the analysis steps and how the themes of the research findings were generated. Thirdly, the section discusses the ethical considerations maintained during the research process. Fourthly, the section examines the research credibility and validity issues by addressing three elements, transparency, reflexivity, and triangulation in my research process.

Chapter Six: Research Findings

The purpose of my research is to explore and examine teacher educators' pedagogical and technological practices in the Maldives. In order to achieve this aim, I sought to answer the following research questions:

1) What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?
2) How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?
3) How do teacher educators form their pedagogical and technological practice?

This chapter is divided into three sections to address each of these questions with supporting data. The first section presents teacher educators' social and cultural learning norms related to their learning to recite the *Qur'an* and their early learning experiences of schooling. It also discusses cultural influences on teacher educators' formed pedagogical practice. The second section identifies the influence of the institutional context on the shaping of their technological and pedagogical practice. It thus highlights the important aspects related to the influence of the pedagogical and technological context of their workplace. The third section presents teacher educators' shaped technological and pedagogical practice and their formed habitus. In this section, data reveals teacher educators' formed practices through the influence of their culture (Maldivian culture and their early learning) and the institutional context (technology infrastructure and pedagogical context). To demonstrate a clear picture of teacher educators' formed practice, the associated habitus types were examined via three participants' (Shaina, Nisha, and Yusra) vignettes.

Data presented in this chapter were generated through multiple data sources. A small selection of illustrative quotations from initial interviews (IN), focus groups (FG), follow-up interviews (F-IN), selected parts of classroom observations (CO), and examples from documented and dated field journal (FJ) entries are provided to report the findings, as it is not reasonable to include the entire data set due to space constraints. Participants' pseudonyms are always mentioned whenever reporting any source of data. Findings are presented in block quotes style, interspersed with minimal commentary. Each category is presented with an illustrative figure, consisting of main themes and sub-themes that are reported in turn.

Social and Cultural Learning Norms

Social and cultural norms incline individuals to do things in certain ways. Teacher educators in my research grew up in the Maldives, thus, their understanding of what learning and teaching means is formed on the basis of deep rooted principles in their culture. Social and cultural learning norms that influence the shaping of teacher educators' practices were consistently demonstrated in different data sources. The themes and sub-themes related to this social and cultural learning are illustrated in Figure 6.1 and reported in turn.

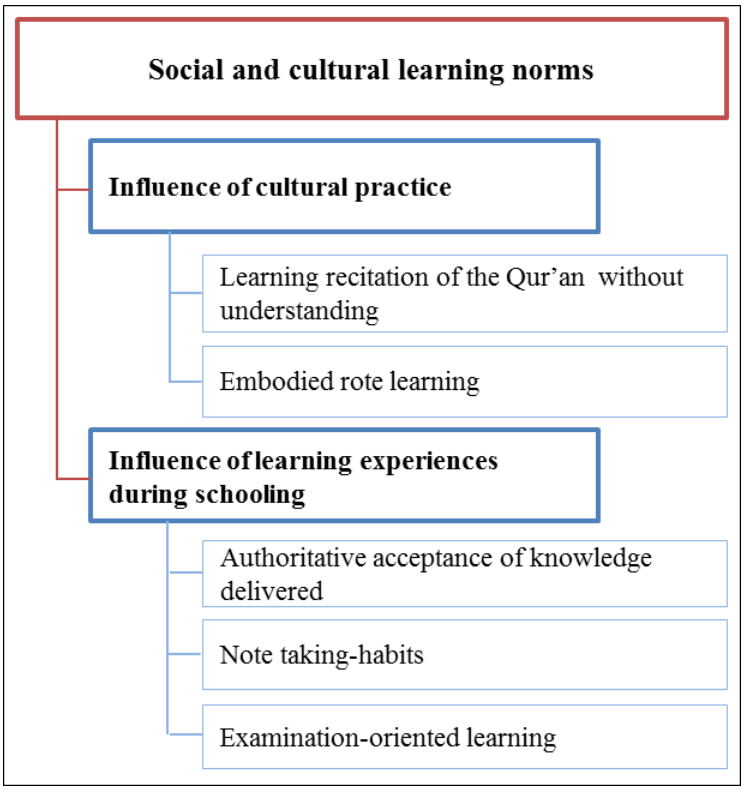


***Figure 6. 1*. Social and cultural learning norms**

Influence of Cultural Practice

The data demonstrated here relates to a specific cultural practice which Maldivian parents consider the most important responsibility of their parenting. This cultural practice is associated with preparing children to practise Islam as they grow older. More specifically, this cultural practice is embedded with a learning norm, which is distinctively different from all other forms of learning that take place in the education system. This practice involves children learning to recite the *Qur'an* when they are young, as early as two years old. In this particular learning norm, children learn the recitation without understanding the meaning of what they recite. This tradition was alluded to by many participants' conversations in interviews and focus groups.

a) Learning recitation of the *Qur'an* without understanding

As mentioned earlier (refer Chapter Two), the recitation of the *Qur'an* is a very early learning experience that all Maldivians have. The emphasis is mostly on the learner becoming fluent in reading of the manuscript, rather than understanding it. My contention is that this is likely to be a strong formative influence on conceptions of learning. What follows is what my participants said about this.

It begins with Alia talking about how she teaches the Qur'an and why:

> In our normal *Qur'an* class, we let students rehearse after the teacher's reading of the part [a part from the manuscript of the *Qur'an*]. We believe that through rehearsing we can make them become fluent and read the *Qur'an* according to *'Thajweedu'* [proper methods for recitation of the *Qur'an*] or proper pronunciation of each letter and words. (Alia, FG)

In a later phase of data collection, Shaina gave an example of her own experience of learning to recite the *Qur'an*:

> My *Qur'an* teacher (*Qari*) always expected me to recite the *Qur'an* after his reading. The purpose of doing this was to make me rehearse properly. The primary method he followed in his teaching was making me rehearse after listening to his reading. His concentration was making me fluent in recitation of the *Qur'an*, in accordance with *'Thajweedu'* [the proper way]. (Shaina, F-IN)

The comments clearly show that rehearsal was the only teaching method used. I sought to understand the reasons behind this approach. Some participants believed that learning to recite the *Qur'an* is different from other learning:

> I completely agree that although learning the *Qur'an* is learning to read Arabic without understanding the meaning, I believe the learning of the *Qur'an* is very different from other types of learning. And the method we apply in teaching the *Qur'an* is therefore different. (Alia, FG)

Yusra confirmed the same understanding, explaining the purpose behind this approach:

> I don't even want to compare how we learn the recitation of *Qur'an* because *Qur'an* is a different subject. We learn the recitation of the *Qur'an* for a different purpose which is gaining '*Thawabu*' [God's blessing]. The nature of the learning therefore is different. (Yusra, FG)

These examples suggest that this early experience of learning influences later conception of learning in the Maldivian culture. These interviews and focus group conversations, coupled with the cultural context background (refer Chapter Two), affirm that this is a traditional practice in the Maldivian culture, and appears to have a strong bearing on both the shaping of Maldivian pedagogical practice, and teacher educators' practices.

b) Embodied rote learning

From a preliminary analysis, I realised that the cultural practice related to recitation of the *Qur'an* seemed, to a certain extent, to influence the rote learning pedagogy established in the Maldives. Therefore, I discussed this idea with teacher educators in focus groups. One of my understandings is that teacher educators' practices may have been unconsciously

influenced by their early learning of recitation of the *Qur'an*. The extracts below report what teacher educators discussed regarding this effect.

These discussions start with comments by Haula and Meera:

> Haula: I was thinking, in fact, that's what is happening in our teaching. … I feel when you know that your early learning could reflect or perhaps sort of influence the teaching pedagogy, and then you may attempt changing the way you practise. I also think sometimes you may unconsciously do things without knowing that what you are doing, [that] is the reflection of your own early experiences.
>
> Researcher: Can we say then, it is something which is embodied in us?
>
> Meera: I think that could happen... I guess sometimes what we believe, particularly when it comes to learning, say for example if I learnt something in a specific way, it could make me believe that it is a way of learning. And I try to teach that way so that my students learn the same way. I don't know how it happens; I agree, it does have a connection. (Meera & Haula, FG)

These conversations suggest that there was a close connection between teacher educators' early learning experiences, the way they understood learning and how they taught. However, comments by other teacher educators were different:

> Yusra: But learning recitation of the *Qur'an*, I would say it does not apply to the normal learning trend. The nature of learning then is different. I don't think it applies to other learning.
>
> Lamha: What you have mentioned is only one specific subject area, which is related to the learning to recite the *Qur'an* in our culture. I don't believe it applies to other subject areas. (Lamha & Yusra, FG)

In later comments, the same teacher educators justified their reasons:

> Lamha: I think it [rote learning] could happen without that influence. I guess it's a completely different story. I also agree that our trend of teaching does follow the rote learning, such as dictation, learning some specific knowledge by heart. An example could be the times-table or learning by heart of some vocabulary. I guess these trends still continue in some classroom teachings.
>
> Yusra: I think it is very different now. We don't encourage our teachers to follow that method any more. We believe there are very relevant methods for teaching that type of specific areas. ... I think the method you mentioned [learning to read rather than understand] probably applies only in the teaching of recitation of the *Qur'an*. (Lamha &Yusra, FG)

These comments suggest that these two teacher educators did not believe that their rote learning pedagogical practices are linked with their early learning of the *Qur'an*. However, in a later conversation, my understanding about the unconscious influence of the recitation of the *Qur'an* was addressed:

> We all have gone through the same trend of learning: probably, it could, to some extent influence our practice though not doing intentionally. … I think even in English teaching methods we still follow the rote learning method when teaching, if we critically think about it. Say, for example, we learn grammar through rote learning and we apply those rules in our writing. I guess the learning of the grammar itself is coming through rote learning. This has been happening and it is still continuing in our schools' teaching. However, though this happens, I still don't agree with the idea that there could be any link with how we learn the recitation of the *Qur'an* in our early years and the existing practice in our teaching. (Lamha, FG)

One participant, however, later explained that the influence is not resulting from the learning to recite the *Qur'an*, but because of the teachers' own agenda for making things easier for teaching:

> It [the practice of rote learning] is not because of learning the recitation of the *Qur'an*. I think most teachers follow the rote learning trend, because it is just an easier way of teaching. If you know the subject matter well, you will sort of be able to explain the lesson very well. … I don't think it has anything to do with our religious principles or recitation of the *Qur'an.* (Zeena, FG)

As noted in these comments that not all participants thought that their teaching and learning practices were influenced by learning to recite the *Qur'an* as a child. However, I found strong links between the two when analysing teacher educators' practices as reported in my further analysis. More specifically, this means that there are links between teacher educators' early learning to recite the *Qur'an* and the dominant rote learning practice in the Maldives. It is therefore, reasonable to assume that it may leave some imprint on the later formation of their practice.

Influence of Learning Experiences during Schooling

Teacher educators' early learning experiences helped me to understand the social and cultural dispositions related to their learning norms and the pedagogies implemented in their classrooms. My overriding understanding is that teacher educators' experiences of receiving knowledge as delivered by teachers may influence their understanding of what it means to learn and what it means to teach. The themes supporting this understanding are authoritative acceptance of knowledge, note-taking habits and examination-oriented learning. Each of these themes is presented below.

a) Authoritative acceptance of knowledge

In the Maldivian culture, teachers are highly respected. The nature of this respect is reflected in the students' way of accepting knowledge as delivered to them by their teachers. Children follow their teachers' instructions without questioning. This means that students' learning is less engaged with their own thinking and constructing knowledge.

The comments shared by participants at different times support this understanding, beginning with Alia's conversation on her own experiences during schooling:

> When I was young, I remember respecting them [teachers] to the extent that I follow all their instructions without questioning. Even during my class, everything that is explained by them is expected to be learnt and memorised. We consider all of what they explain is important for us. (Alia, F-IN)

Haula also commented on accepting knowledge as learning imparted:

> We obey our teachers' instructions. We quietly listen to what teachers explain. Thus, we learn and rehearse the knowledge until we become fluent in the reading of the whole text. (Haula, IN)

These conversations suggest that the meaning of learning was understood as becoming fluent in reading texts in the same way teacher educators learned the

recitation of the *Qur'an*. This view of knowledge implies that it is something given by an expert as Meera noted:

> Teachers' instructions, whether written or verbal, are normally copied as they are because we [she and her classmates] don't doubt about the knowledge he/she explains. We know that they [teachers] are always right. (Meera, IN)

In a later phase of data collection, the same understanding was confirmed.

> I considered my teacher as someone who knows everything. I accept everything he says. Normally we [classmates] don't doubt about anything. We [classmates] believe that teachers should be knowledgeable, should be able to explain very well. (Alia, F-IN)

These comments suggest that if students keep memorising knowledge, they will feel less need for seeking clarification. In such classrooms, students rarely ask questions about anything that has been explained, as mentioned by Haula:

> I guess we are sort of afraid to talk in class then. We assume that it is not good to talk and ask questions while teacher is explaining. Mostly, we keep quiet and listen. Always teacher will talk and we listen. (Haula, F-IN)

In these classroom experiences, students are forming habits of listening and memorising, which may be understood as learning. This data indicates that accepting received religious knowledge as practised in childhood can influence understandings about what learning is. In this case, it is understood as rehearsing and memorising knowledge. This goes hand-in-hand with teacher as expert. Thus, it could be noted that learning habits in the Maldivian culture are to a certain extent influenced by these everyday experiences of rote learning in classrooms. This habit of accepting knowledge through listening to teachers led students to routinely take notes.

b) Note-taking habits

The examples presented in this theme demonstrate that the pedagogical approach applied in teacher educators' own classrooms when they were young. They, as students, tried to meet their teachers' expectations by learning and memorising knowledge. These classroom practices imply that the learning is being fixed and the answers that teachers expected are either right or wrong.

The comments begin with Meera about her own schooling:

> When I was a student in the late nineties… the teacher dictates or writes notes on the board. We [her classmates] have to write, sometimes, four to five A4 size sheets in every class… Sometimes, teachers draw diagrams on the board and we had to copy everything. Most of the time, the teacher will explain and we listen. At that time, it was a heavy burden for teachers to write notes on the board. ... And we students keep sitting, taking notes or listening. We hardly talk to each other during the class time. (Meera, IN)

The comments described here are from when I first interviewed teacher educators about their early schooling, suggesting that some classroom routines of early schooling consisted of rote learning. The same understanding was supported in the last phase of data collection:

> When my teacher starts a lesson, she normally writes the notes on the board, and we will copy them in our exercise book. Or sometimes if it is a math

> class, she will give exercises and we complete them, when we complete the work, she will mark the books. That's the typical classroom of my early schooling. (Haula, F-IN)

The same participant in a later conversation confirmed with more examples of note-taking activities and how students approached learning in these classrooms:

> We assume any answer that our teacher writes is perfect. This is why we always copy whatever she writes on the board. Sometime our teachers write both questions and answers together. Then we only need to memorise them. (Haula, F-IN)

The examples demonstrate that note-taking seems to have been the main activity in teacher educators' classrooms when they were young. This goes together with a view that learning is storing knowledge, whether through memorisation or copying. As noted here, the acceptance of learning as being about memorising and repeating can be played out in a highly examination-oriented education culture as it is in the Maldives.

c) Examination-oriented learning

As mentioned earlier, the education system in the Maldives has a long history of examination-oriented teaching and learning (refer Chapter Two). One of my emerging findings from three phases of data collection demonstrated the link between teacher educators' practices and their own early learning experiences in schools when they were young. I therefore, sought to validate my understanding regarding teacher educators' examination-oriented learning that may have influenced their later formed practices. The comments drawn are from participants who took part in the follow-up interviews.

These comments start with Haula:

> In English [lesson], the teacher will give parts from text books to read, and reading comprehension in a worksheet. Students don't get many choices, even when answering them. Normally the teacher dictates the answers. Sometimes … even writes the answers on the board and we copy them. I would say, even in essay writing, many ideas are given by the teacher, and we just copy all that she writes or explains. (Haula, F-IN)

Teacher educators had learning experiences for the purpose of examinations, as Meera confirmed:

> Our teachers always concentrate on following the text books. Sometimes the teacher will allocate parts to read aloud during teaching. When we read she will explain the parts and we are supposed to write important points in the margin of the text. Sometimes we write meanings of words, while she explains. She will often highlight the important things that need to be focused in the exam. (Meera, F-IN)

The main teaching approaches teachers followed in these classrooms were facilitating their students to prepare for examinations, not for making a meaningful learning. Nisha's comment supported this with an example of drill and practice:

> I remember I used to do many practice papers preparing for the examinations. It is sort of a trend we all followed. We have study groups... We often check

> the answers with our teachers ... [if the teacher wants add anything] she will write on the board and we copy. (Nisha, F-IN)

These examples of classroom activities demonstrate that students depend on teachers' texts without much reflection. This emphasises the idea of content knowledge reproduction and repetition. This reflects early recitation practice of the *Qur'an*. Like the *Qur'an*, knowledge is fixed and cannot be questioned. Data indicated that teachers were highly respected in the classroom culture of the Maldives. The nature of this respect is reflected in the students' way of accepting knowledge as delivered to them by their teachers. This means that students follow their teachers' instructions without questioning. Thus, students' learning is less engaged with their own thinking and constructing knowledge, as might be expected in classrooms in other countries, such as New Zealand. Teacher educators' comments show that the meaning of learning involves becoming fluent in reading texts, in the same way they learned the recitation of the *Qur'an*. In addition, taking notes and listening to teachers' explanations were everyday classroom activities experienced by teacher educators when they were school students. These experiences were strengthened through their teachers' examination-oriented pedagogies.

Data in this regard suggested that the nature of teacher educators' early learning experiences puts receiving knowledge at the centre of the learning/teaching process, and that knowledge given by teachers is always correct. They routinely copy whatever teachers explain, write, and dictate. This may lead teachers to form content-focused thinking. It could be argued that their learning experience leads them to understand learning/teaching as knowledge transmission. In other words, observing and experiencing such pedagogical classroom activities establishes a perception of pedagogy as content knowledge transmission, rather than knowledge construction.

Institutional Context

Along with the influence of social and cultural learning norms in the Maldives, teacher educators' pedagogical practices with technologies were influenced by their institutional context. The institutional context may also have affected teacher educators in forming specific pedagogical and technological practices. Teacher educators raised concerns about some aspects associated with their workplace. The key themes and sub-themes which emerged are outlined in the Figure 6.2, and are reported in turn.

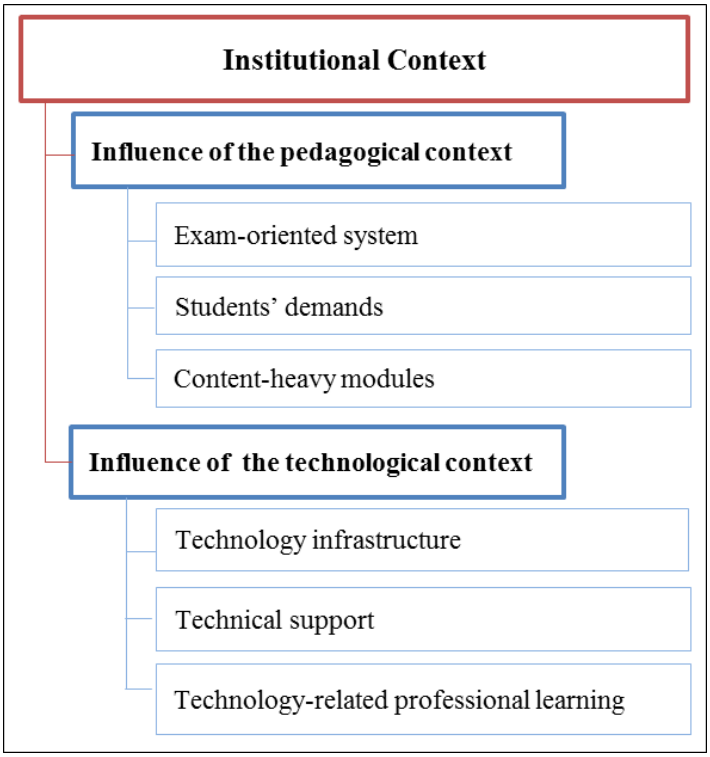


Figure 6. 2. **Institutional context**

Influence of the Pedagogical Context

Teacher educators discussed three elements that may have influenced their pedagogical practices in their pedagogical context of practice: the examination-oriented system, their students' demands; and the content-heavy modules they teach. Each of these is presented with participants' comments and commentary.

a) Examination-oriented system

As previously discussed, the Maldivian education system and its prevailing pedagogical practice is exam-oriented (refer Chapter Two). The influence of an exam-oriented system and perceptions of students' concentration on examinations were addressed in many conversations by teacher educators.

The comments start with Raufa:

> Even accidently, if I say this could be important for the exam, students would hurriedly note down the points I discuss in the explanation. Our students always think [about] what is important for the exam. They also frequently ask questions about the important topics or areas that could be covered in the exam. (Raufa, IN)

Apart from students' over-concentration on examinations, the system of education in the Maldives also influenced teacher educators' pedagogical thinking, as Raufa said in the third phase of data collection:

> I guess it [rote learning] is practised because of the examination-oriented system in our education. I guess our thinking about the learning is the score that students get from their examinations. Most of us think that students'

> understanding is assessed through examination. So when we think that way, often our concentration is on the content. (Raufa, FG)

This same understanding of examination-oriented thinking that teacher educators have, was discussed between Faiha and Zeena:

> Faiha: I think mostly we teach that way [rote learning pedagogy] because we want our students to understand what we teach, whether we follow rote learning or any other methods. Basically, what I feel is if they don't understand they won't be able to answer in the examination. The blame would be on the teacher then.
>
> Zeena: I find that point is very relevant to what we are talking about. Many of us believe if our students score well in the exam they must have learnt really well. That means if the students do not score well the teachers will be blamed because he or she was not able to teach well. (Faiha & Zeena, FG)

Teacher educators' practices were influenced by their examination-oriented thinking, which mirrored their own learning experiences in their early schooling and continue the tradition of a focus on teaching content. These comments reflect teacher educators' understanding of the appropriate pedagogies for a context in which everyone believes the students' score is important, hence it should be addressed in their approaches to teaching. Apart from the influence from the system, teacher educators' practices were also influenced by their students' demands.

b) Students' demands

Teacher educators also talked about students' demands, explaining that the activity-oriented teaching is not very appropriate for their classrooms. These comments were drawn from teacher educators when they discussed preliminary findings related to their formed pedagogical practices and what influenced their shaping of specific practices.

Comments begin with Nisha:

> They [students] are always concerned about hand-outs and important materials for the exam. I intentionally explain the areas that are important for the exam so that I won't [be] blamed later by my students. (Nisha, F-IN)

Giving hand-outs and explaining the content was important in this context of practice. This was so that students will understand what they are expected to learn. Faiha said:

> I think mostly we teach that way because we want our students to understand what we teach, whether we follow rote learning or any other methods. They [activities] sometimes do not work in our teaching. (Faiha, FG)

Explaining content, rather than providing opportunities for their students to think and reflect, is common. The same understanding was highlighted when Nisha said:

> I think there are many reasons for that, not because we don't apply it. Sometimes these activities do not work with our students. (Nisha, FG)

The reason that students do not learn much through activities was explained by Haula, who said:

> I was a primary school teacher [earlier]. I love to see students' interaction in the classroom. It is very important for my teaching. But I realise sometimes

> when our students get older, they expect the teaching and learning to be in a fixed seating setting and prefer to listen to the explanations, rather than them being involved in activities. I think starting from our secondary school classrooms [the] teaching becomes very much teacher-centric. This is probably seen when students join teaching programmes or tertiary levels. ... They always expect the teacher to explain... Many students don't like getting involved in activities in the class. They rather prefer listening and taking notes. They like getting the ideas as explained by the teacher. (Haula, F-IN)

These comments demonstrated that teacher educators' pedagogical practice was shaped by their students' expectations of their role as experts of delivering content. Students position teachers in certain ways. This positioning may reflect the positioning instilled when learning the *Qur'an* as children. In turn, this is likely to shape both students' and teachers' expectations of the teacher role. In other words, learning content is a strongly imposed process of reproduction, not an internal process of thoughts, critique, analysis or constructing new knowledge. Along with this, the content-heavy modules they teach also influenced the shaping of their specific pedagogical practice.

c) Content-heavy modules

Two teacher educators observed that some approaches of teaching, such as activity-oriented, did not suit the content-heavy modules they teach. This issue was discussed between two participants when they were asked to reflect on reasons behind their shaping of traditional pedagogical practice.

> Raufa and Nisha talked about this:
>
> Raufa: We don't really implement them [constructivist learning theories] in our teaching. It is hard sometimes to cover everything if we follow activity-oriented teaching.
>
> Nisha: Sometimes these activities do not work with our students [especially] when teaching really content-heavy modules. … I completely agree, even when we design modules, we tend to take it that way. We have an assessment policy which demands 50% assessments in the exam conditions [summative assessment].
>
> Raufa: The way our programmes are designed demands that.
>
> Nisha: Yeah, that's very true, the modules or how it is written are probably one reason. I mean our modules are very content-oriented. We are supposed to cover the content. That is one of our major concerns. Our understanding is we should be able to cover 90% content during the teaching hours. Maybe for this reason our teaching has become very much content-focused. (Raufa & Nisha, FG)

Teacher educators do not implement constructivist theories of learning in their practice, because it does not suit teaching content-heavy modules. As previously discussed, the Maldivian education system and its dominant pedagogical practice is examination-oriented (refer Chapter Two) and this is focused on the reproduction of content. In turn, this leads to teacher-centric content delivery methods, which are likely to mirror process of rote learning during teacher educators' early schooling. Other influences include teacher educators' perceptions about their students' focus on examinations, and the

prevalence of teaching content-heavy modules. These examples demonstrate that teacher educators are consciously using pedagogies, which they think support the reproduction of information that will support students' reproduction of information in examinations.

Influence of the Technological Context

As well as the pedagogical context, teacher educators' technological and pedagogical practice was influenced by the technological context of their workplace. Teacher educators' use of technologies was associated with the available facilities and the quality of support provided in their workplace. Participants raised several concerns regarding technology infrastructure, technical support, and the professional learning designed for them, as reported below.

a) Technology infrastructure

When talking about technology infrastructure, many teacher educators raised concerns regarding the Internet facilities, limited infrastructure, and technical difficulties they experienced when using facilities available in their workplace. Due to the paucity and the quality of available resources, teacher educators deliberately choose what best works for their teaching, rather than experimenting with all the available facilities. Teacher educators described their experiences related to the slow Internet, limited infrastructure, and technical difficulties.

Slow Internet: Participants frequently commented regarding the Internet speed and how it influenced their work.

> The comments begin with three participants, raising concerns regarding the slow Internet:
>
> > I experience difficulties when downloading materials through the Internet. (Zeena, IN)
> >
> > Our Internet broadband is very slow; this in fact delays the process of uploading and downloading. Apparently it is a lot of hassle. (Shaina, IN)
> >
> > It's slow and time consuming. This is the reason I always avoid using it during my contact hours. (Raufa, IN)
>
> The internet speed affected teacher educators' use of available facilities and how they used them. Apart from what they said, I also observed some difficulties experienced by teacher educators inside their classroom. One example is drawn from Yusra's teaching:
>
> > In Yusra's classroom observation, when I clarified regarding her reason for not using the Internet that was available, she responded: 'The Internet is very slow and sometimes it doesn't work ... if I used it, it would waste lot of time.' (Yusra, CO)
>
> The Internet speed affected their use of other facilities as mentioned by another teacher educator:

> Having access to many resources for our teaching such as Ebsco, Eric, and ProQuest, we are not able to use them properly …mostly because of the slow Internet. (Lamha, IN)

Along with teacher educators' comments on the Internet speed and classroom observations, I also observed this in an official meeting. The incident was documented in my field journal:

> I just came from an official meeting where the institution organised a session for higher degree students [a normal practice when new courses are introduced]. When the Dean of the faculty opened the university website, in order to show examples of some modules and proposal guidelines for research students, it took a considerable time for downloading some materials. In fact, he had to stop the downloading for a couple of times when the Internet was too slow. (5 January 2012, FJ)

Data suggested teacher educators' concerns about the reliability of the broadband, was a common reason for avoiding using the Internet in their teaching. Such difficulties are quite likely to have influenced teacher educators' decisions about using online resources inside the classroom. Besides these difficulties, a number of teacher educators talked about the limited technology facilities in their workplace.

Limited infrastructure: The conversations about limited facilities were associated with old computer systems and the availability of one smart board.

The comments on these two items begin with Meera's conversation:

> We don't have sufficient finance to bring new technologies. ... Our computer labs need to be upgraded. (Meera, IN)
>
> The computers are sometimes very slow. These systems are old and need to be upgraded. (Dhimna, IN)

Teacher educators' concerns regarding the old computers were also coupled with other issues of limited facilities in their workplace:

> We need equipment, such as video conferencing, e-Learning programmes, and more efficient virtual forums. (Yusra, IN)
>
> I would hope to use smart boards more often if it is possible. We don't have many. We have only one smart board and it can hardly ever be used. (Faiha, IN)

These participants believed that they need more than they currently have. Some participants raised concerns regarding the difficulty they experience when wanting to use smart boards:

> Zeena: I think the problem is because it is only one room where this smart board is installed. It is hard to get the classroom for your regular teaching. The classroom is not allocated in the timetable, so anyone who needs to use it must reserve it in advance.
> Faiha: Reserving that classroom is a big hassle. I have tried a couple of times and it didn't work for me. Always the room is occupied. (Zeena & Faiha, FG)

Another two participants discussed this concern in the same vein:

> Alia: We have only one smart board, sometimes it's difficult to even reserve it.
> Shaina: I think only a few people get to use it. I hardly ever get that room for my teaching.
> Alia: One day I was able to teach in that class, but the problem I had was I did not get the relevant software with it. (Alia & Shaina, FG)

Data suggested that the institution has limited technology facilities which may influence teacher educators' adoption and use of digital technologies. These teacher educators' concerns were related to the limited facilities such as old computers, availability of smart boards, and e-Learning forums, may have influenced their use of digital technologies in teaching. Some participants also commented on technical difficulties and how that influenced their practices.

Technical difficulties: Five teacher educators raised issues related to the technical difficulties they experience when using facilities available in their workplace. Most of these were associated with the virtual spaces provided for them.

These concerns start with Shaina's comment:

> We have a variety of tools available for sharing information, such as GEM [a virtual space for all students and staff], Moodle, IQWeb, Self-service, and share folders for both staff and students. I don't believe that these facilities are utilised well. The reasons… I guess are [because] you always have to tackle all these things because of the challenges you face. (Shaina, IN)

The facilities available were not well used by teacher educators. Another example was added by Yusra:

> For example, Moodle, GEM, Self-service, these tools have great potential for our teaching and learning. But there are many technical difficulties that come with these things. Sometimes a particular tool may work very well, other times it doesn't. You can hardly understand what is wrong when dealing with it. (Yusra, IN)

Other participants explained reasons behind teacher educators' limited use of these facilities, such as the lack of familiarity and some difficulties associated with their use of such tools:

> Alia: It [Self-service tool] seems a very useful tool. However, the students and the staff are still not familiar with it.
> Shaina: I think many are not familiar because they do not try how it works. It takes too much time to get familiar with as you sort of always face many problems.
> Alia: I would say it is because of the operating parties at the university media centre. They still find it difficult to give access to many people. This causes many difficulties when using it on a regular basis. Lecturers become upset when they face the same difficulties repeatedly. (Alia & Shaina, FG)

Some other participants discussed more concerns regarding the same facility (Self-service tool):

> Raufa: I can hardly manage anything to do with Self-service [a virtual space]. I normally ask my teaching assistant to do it. It's such a hassle to deal with it.
> Nisha: I uploaded the materials last year in the second term; students could not get access to them. Then I had to put everything again in the students' folder [Student share]. I believe that is probably one reason many don't use it. (Raufa & Nisha, FG)

Apart from these technical difficulties associated with virtual spaces, I also observed some technical difficulties even when using the intranetworking when teaching:

> She [Nisha] opened her network share [academic share folder] and got her presentation from it. While she was loading the presentation... it took a couple of minutes to load the presentation. During her teaching hour, it got stuck several times and had to go back again. (Nisha, CO)

Even though a number of virtual tools were provided in the institution, teacher educators were reluctant to use them because of regular technical difficulties. Teacher educators' comments indicate that these technical difficulties they faced in their everyday practices, generally, influenced their uptake of the virtual tools and how they used them. No one seemed enthusiastic about using these tools (GEM, Moodle, IQWeb, and Self-service) because of the problems they regularly involved. Data in this regard suggest that these difficulties could influence teacher educators to form specific practices as a consequence of these every day experiences in their workplace. These experiences unfortunately may lead them to adopt what works for them without any trouble.

b) Technical Support

Besides concerns regarding technology infrastructure, many teacher educators complained about the quality of technical support, raising concerns regarding how the support was operated in their workplace. These concerns were related to monitoring and updating and the availability of technical staff at the time of the need.

Monitoring and updating: Teacher educators shared difficulties they experienced due to lack of monitoring and updating of the systems.

These comments begin with Dhimna:

> I think these facilities are not updated; definitely they are not reliable. For example, my experience at the beginning of this week, I had planned to show a video clip and the multimedia didn't work that day. I wasted my time …it didn't go as I planned ... I sometimes get annoyed... because of the difficulties I face during teaching. If things have been monitored well, they could fix things easily. (Dhimna, IN)

Experiencing difficulties repeatedly may lead to avoidance of such uses. Another example of such experience is described by Haula:

> Today, for instance, I have tried three times to do some work with the Self-service tool, and had lots of difficulties. It's hard for you to spend much time on sorting out those things. I think the university administration and … [Institution's name removed] both need to check out and monitor these things and how things are going on. I have had lots of trouble with available facilities while taking classes. Most of the time we will need to go to plan B if it does not work as planned. I think we don't have sufficient media staff members. They do not provide efficient support for our teaching. (Haula, IN)

Complaining about the monitoring another participant confirmed the same issue:

> Our media staff members do not check the systems at all. Some days we can hardly open a pen drive because of virus issues. It is really hard to go with these things… often I get really annoyed. (Zeena, IN)

More of these experiences are added by Nisha:

> I am not sure how many times I had the same problem when trying to play a video. There are all sorts of difficulties I find when trying to open even a pdf sometimes... sometimes the version is different, other times networking problems. I hardly understand what is wrong with these systems. (Nisha, IN)

Since the institution did not have rigorous monitoring and updating computer systems, teacher educators regularly faced connecting and access issues. This led to avoidance, rather than uptake. The insufficient monitoring and updating of the computer systems lead teacher educators to avoid using some available facilities in their teaching. Some of these issues included, virus scanning and not having relevant programmes. Teacher educators also complained about the availability of media staff for providing technical support.

Availability of the technical support: From the previous theme, it was noted that teacher educators were frustrated when using some facilities available due to the lack of monitoring and updating the systems they use in teaching. Their frustrations become worse if they do not receive the technical support when such difficulties are experienced during their teaching.

Six teacher educators commented on this:

> Many times I called media staff. I rarely find them in their workstations. (Zeena, IN)
>
> When we need help from media staff they are not available. (Haula, IN)

The two comments indicate that the support was not provided when these two teacher educators needed help. Further, in an observation, I clarified this issue:

> I saw how frustrated they could become, the day I observed Faiha's classroom teaching. During her teaching, she had many problems with a movie clip which she wanted to show her students. She tried to use it a couple of times and when it did not work she moved to her next task. At the end of this observation, I asked her why she did not seek media help for getting it functioned. She responded in a frustrated tone: "Even if I call the media staff they would probably take ages to come and fix it. By then I would have finished my class." (Faiha, CO)

Some participants also commented that even putting an advance request to sort out such technical difficulties is not attended:

> I wonder sometimes whether what we write in the complaint sheet or request sheet is read by any one of the media staff or not. (Yusra, IN)
>
> The media staff members are not very available for help even if the request is put in advance. (Nisha, IN)

Some teacher educators discussed this issue, raising the same concerns with annoyance:

> Lamha: I often find it difficult to go with the available things, because when I need help I don't get it easily. So, in a way, it would be much easier to go with what works for you.
> Yusra: We have three media staff members. I wonder what they do during the whole day. There has to be a way.
> Lamha: Even if you call them while you teach, they rarely come on time. (Yusra & Lamha, FG)

Teacher educators aimed for easy teaching. They avoided problematic areas including using digital technologies regularly. Comments regarding many technical difficulties and the way the support is provided made it clear that teacher educators were not pleased with the technical support provided to them. This is likely to influence teacher educators to choose specific tools that would work for them without much trouble, and eventually their formation of specific technological practice. Apart from technology infrastructure, teacher educators may have been influenced by the way professional learning was designed in their workplace.

c) Technology-related professional learning

Along with these technology infrastructure issues, many teacher educators raised concerns regarding their technology-related professional learning. Technology related professional learning is designed to enhance teacher educators' pedagogical practices and their use of digital technologies. The data identified two types of professional learning. One was formally designed and the other was informal learning that occurred through corridor talk (i.e., sharing new ideas when meeting colleagues informally).

1) Formal professional development: Teacher educators raised concerns regarding the formally designed professional development (PD) in their workplace. These concerns were associated with the way the professional development was designed and how it was useful for their practices.

Organisation of PD: Teacher educators' comments demonstrated that PD sessions were not well organised to enhance teacher educators' pedagogical practices.

These comments begin with Nisha and Raufa:

> Making these facilities part of our practice is something that they [PD professionals] arrange and organise to happen. It is not done properly by the institution. (Nisha, IN)
>
> If there is any…it sort of is not really well organised. (Raufa, IN)

These two comments indicated that teacher educators are not pleased with how PD was organised for them. Two other participants explained some reasons regarding this argument:

> I think PD needs to be organised in a way that helps the staff to get familiar with those things [tools] and do something instead of having short introductory sessions about these things. (Haula, IN)
>
> I mean when giving a session about a new facility or new applications, not enough support is given at the early stage. I guess the support needs to be maintained until we get familiar with it. (Shaina, IN)

Teacher educators preferred on-going help when faced with new tools. One-off PD did not work for them, for it was not aligned their practices.

Limited opportunities: Some teacher educators raised concerns regarding the limited opportunities they get to participate in PD sessions.

The comments begin with Shaina, Nisha, and Zeena:

> There are a few programmes run at our institution to make us learn things. (Shaina, IN)
>
> We had very minimal PD about using GEM and Moodle. I guess opportunities for PD … are very limited. (Nisha, IN)
>
> There were only limited and occasional PD sessions. I think they [institution management people] just don't run too much. (Zeena, IN)

The three teacher educators believed that there were not enough sessions organised for them to participate in professional learning. However, another participant added that though sessions were designed, they were not useful for their practice:

> I think the institution runs a limited programme in order to get teacher educators familiar with these tools. I remember there were sessions about Moodle, GEM, IQWeb, Self-service, website designing. It is like one for each programme. No one seems to be learning anything. (Alia, IN)

PD session for each programme such as one for Moodle or GEM seemed to be too limited for these teacher educators.

***PD sessions are not connected*:** Teacher educators raised some issues regarding how PD sessions were not being connected with teaching, rather introduction of tools. They highlighted that these sessions were occasional and with no connections between the sessions, which made them easily forget what was being introduced.

The comments by teacher educators supported this view:

> We had very minimal PD about using GEM and Moodle, and the sort of separate bits are not really linked to each other. (Nisha, IN)

Sessions are not linked with one another, thus it does not help teacher educators learn much:

> Though there are PD sessions organised, they are not helping us to continue using the available tools, because everything they introduce is like a new idea, and next year they will come and talk about something else again. (Dhimna, IN)

Alia recalled, giving an example of why teacher educators forget what is being introduced:

> I remember there were sessions about Moodle, GEM, IQWeb, Self-service, and website designing. But they happened only occasionally and people tend to forget things easily because sessions are not linked to each other. (Alia, IN)

Another participant claimed that they forget because there are no follow-ups done on what happened after the session:

> Most of us forget what we learnt from the sessions, because they are not monitored and not linked to each other. (Shaina, IN)

More explanations regarding the lack of connections between sessions provided by Faiha:

> Calling one day for a session, and another day running a completely different one which has no link to the previous. Normally, we are not able to get the ideas

> on how to integrate these things [tools introduced in these sessions] in our everyday teaching contexts. (Faiha, IN)

Teacher educators easily forget what is being introduced in PD sessions due to a lack of connection between the sessions.

PD's usefulness: Teacher educators believed that PD only provides them with an introduction about various tools, which does not necessarily link to their pedagogical practices.

Comments on this idea begin with Haula and Nisha:

> I believe the sessions do not completely help us to use it in our everyday practices. (Haula, IN)

> I don't find the information shared was much use. (Nisha, IN)

These teacher educators believed that the sessions were useless. The same understanding was discussed between two other participants:

> Raufa: I don't think the session provides us much about what we need to do with these tools when it comes to our existing practice.
> Nisha: That's true; sometimes I feel they are just giving us an introduction about a tool and that's it… then what?
> Raufa: Sometimes I wonder how these things can be useful for our own practice. They never give us practical examples on anything that is meaningful for us. (Raufa & Nisha, FG)

These teacher educators found that PD sessions they participated in were not very useful for their pedagogical practices as they were not linked to pedagogy. Another example on a specific tool was given by Haula:

> I notice the majority don't use IQWeb because they don't really know how to practically use it for teaching, though some sessions were organised. (Haula, IN)

More explanations about PD's inadequacy were made by Faiha:

> Normally, we are not able to get the ideas on how to integrate these things in our everyday teaching contexts. When a session is given we usually get to know the tool, but what to do with it and how to do things are some concerns that are always raised and later no one is interested in learning more. (Faiha, IN)

PD sessions were not useful for enhancing teacher educators' pedagogical practices.

Reasons for limited uptake: Teacher educators' limited uptake of introduced tools was associated with the lack of monitoring and support that should accompany PD. As many participants commented, there was no support provided for helping them make use of what is being introduced.

Comments on this begin with Shaina and Alia:

> Not enough support is provided at the early stage, until we get familiar with the tools introduced. (Shaina, IN)

> After the sessions not enough monitoring is done, whether we use those things or not. (Alia, IN)

Both these teacher educators commented that there was no follow-up provided after the sessions. Haula also confirmed this view:

> We don't really know how to practically use it for teaching that can only be gained through practising with it. It means we will need support for this. (Haula, IN)

Shaina further justified the importance of having someone who can always provide support for helping teacher educators continue using the introduced tools:

> When new ideas and applications are introduced, enough support and follow-ups need to be arranged. Unfortunately, it doesn't happen. This also means that there has to be someone who we always can seek help from. (Shaina, IN)

Due to the lack of monitoring and support after the sessions, teacher educators have limited uptake of what is being introduced. Teacher educators' comments on how their professional development is designed clearly indicated that it does not help them in the effective use of technologies for their pedagogical purposes. Thus, regardless of the number of PD sessions that are organised for them, it is unlikely to lead to them changing their use of technologies, and accordingly, they just follow what works best for them, rather than thinking about appropriate use of technologies for their teaching. Besides the formal professional development, many teacher educators recognised that they gained a great deal of technological knowledge through their corridor talks.

Informal corridor talk: Some conversations underlined the trend for corridor talk within the department staff. The institution is divided into academic departments according to specific subject areas such as science department and mathematics department. Teacher educators meet their colleagues who are in the same discipline more often than people who work in other departments. The idea here is when someone learns about a new tool or useful website; it is very likely to be shared with the person next door. Some of these examples are presented with teacher educators' comments. Teacher educators learned useful skills and ideas from each other when sharing their learning between their colleagues in the same department.

Some comments on this follow:

> I learn a lot just by trying out things. Say, for example, at first I was not very fluent in using PPT in my teaching. With the help of my colleagues, I can prepare really good presentations now. I also think I have improved a lot... in terms of adding hyperlinks and videos etc. It is like when someone knows something or when you know the other person is better… you seek help from them. (Zeena, IN)

In this example, Zeena acknowledged her learning from other colleagues. Two other participants discussed their learning of using Dropbox:

> Raufa: For example I heard about Dropbox from … [name removed] I learnt to use it with her.
> Nisha: I like Dropbox too; it has become very common in our practice.
> Raufa: It is sort of learning that happens informally. We learn from each other, just by observing or knowing that someone is using a new thing. Then you tend to tell others about it.

Nisha: That's true. I actually learnt it from… [name removed]. She once told me to install it and have a go. It is a free tool; once it is installed you get free space.

Raufa: We learn a lot from each other. I feel whenever we find something new we tend to sell those ideas, we talk about it within our professional group [teach same subject area].

Nisha: Yeah that's what happens normally; it is like when knowing about useful websites, relevant pdfs, learning activities, tools, videos, and sometimes new applications too. (Raufa & Nisha, FG)

These corridor talks involved sharing and learning, where when someone learns something new, it is likely to be shared with the person next door. Meera confirmed some of this understanding:

> I think we learn a lot that way… I remember I shared with many people ideas about some helpful websites and links to get pdfs. (Meera, IN)

Faiha and Zeena indicated their experiences of getting used to Dropbox through corridor talk:

Faiha: I often discuss what I do with other people in my department. For example, I knew about Dropbox through an email of a friend. I installed it in my system. I found it very useful. Then I talked about it with many … [names were removed].

Zeena: That's true, I also learnt it from you… sometimes things we learn that way are much more helpful than the things we learn from the PD sessions, because once the PD is done, no one is there to seek help about it. But for example this way, I always go to [name removed] and get her help.

Faiha: Not only the programmes. We also exchange a great deal of many helpful websites.

Zeena: You recently mentioned about Google doc, which was something I want to learn and I keep thinking about it now. (Faiha & Zeena, FG)

Teacher educators always discuss new ideas, websites, and tools with their colleagues. This helps them develop some useful ideas for teaching with technologies. This is an informal kind of learning they do not recognise as professional development. These discussions indicated teacher educators' enthusiasm about learning new ideas and useful technology-related skills through informal talk. It was clear that most examples shared through these corridor conversations were simply information sharing. However, when it comes to complicated tools and their use in practice, they expect the institution to design formal PD for them, as discussed earlier.

Data up to this point indicated that:

- teacher educators' social and cultural learning norms related to learning to recite the *Qur'an* influenced their view of knowledge as being fixed and given;
- teacher educators' early schooling experiences of rote learning reflected on their positions as experts of knowledge; and
- the institutional context also influenced teacher educators' decision for choosing specific digital technologies and the approaches they used in teaching.

The next section identifies how teacher educators' formed practices resulting from these influences.

Teacher Educators' Pedagogical and Technological Practice

This section examines specific themes resulting from the influence of some social and cultural learning norms and the institutional context of teacher educators' shaped pedagogical and technological practice. These themes include adoption of specific tools relying on gained benefits, PowerPoint-assisted pedagogy, and content-oriented pedagogy (Figure 6.3).

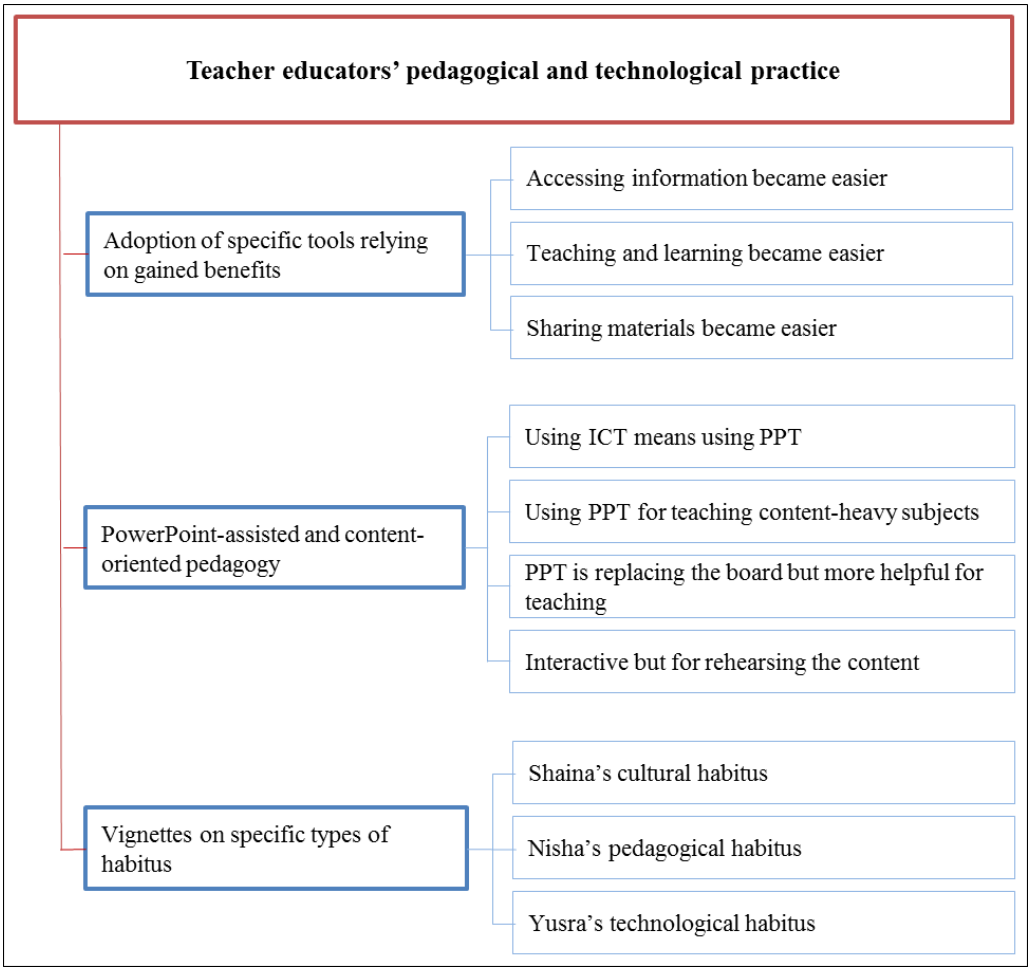


Figure 6. 3. **Teacher educators' pedagogical and technological practice**

Adoption of Specific Tools Relying on Gained Benefits

Some teacher educators described their views of using technology as a means of teaching in a trouble-free and efficient way. This particular trend was noted in their conversations when they talked about the reasons they adopted specific tools in their teaching. Some examples were drawn from the data to explain this understanding of teacher educators' adoption of specific tools, resulting from their gained benefits.

Accessing information became easier: Teacher educators used the Internet for researching information and materials for their teaching. The Internet then saved a great amount of time and made their professional practice easier and more efficient.

The comments on this begin with Meera:

> I think the best thing about ICT [using the Internet] is you don't need to go to the library and search for information. You can just write into Google or any other search engine when necessary. (Meera, IN)

Making teaching easy was one of the main principles when teacher educators used digital technologies as further confirmed:

> It [the Internet] saves a great amount of time … in my preparation for lessons. Sometimes even when I just Google something or a topic which I need, I get huge amounts of materials relevant to my lesson. (Lamha, IN)

Internet made accessing information easier and faster for teacher educators. Accessing information via the Internet made teacher educators' practices easy, as they did not need to go to the library for researching materials for teaching of content.

Teaching and learning became easier: When computers became available at the teacher educators' workplace, their pedagogical practice became easier, as it allowed them explain the lesson without writing notes on the board, and also enabled them to teach larger groups more efficiently.

This understanding was supported with more comments by Meera and Nisha:

> Nowadays, it is different [from when computers became available] at that time [her school time] we can say that teachers always needed to write so many things on the board. It was waste of time. It was hard for both teachers and students. (Meera, IN)

When computers became available, teacher educators did not need to use the board for writing notes; they used PowerPoint instead, Nisha said:

> In the traditional teaching style, you need to sort of write many things on the board. When ICT is incorporated it became so much easier to deliver the lesson, I don't need to have a lesson plan on a piece of paper. If I put everything in the PPT there is a logical flow, I see the organisation; if any picture is put in the PPT students can see it, and students can go into a discussion, it's easy for me to get my thoughts together, and plan my lesson as well. (Nisha, IN)

Apart from the ease of explanation, PowerPoint enabled teacher educators to teach larger groups more efficiently, as Haula noted:

> For example, we can make a very small picture maximising its size and that can help to see the details and can show it to all through a simple slide. (Haula, FG)

Teacher educators adopted computers for their teaching because these systems enabled ease and efficiency, but did alter pedagogy. Teacher educators said that they could more easily deliver content. Teacher educators' comments suggest that PowerPoint allowed them to teach more efficiently, as they did not need to waste time on writing notes on the board and the written content in the PowerPoint helped them to follow their explanations more easily while including the content to be taught on slides.

Sharing materials made easier: Using digital technologies also made sharing of information and materials between students and colleagues easier. This helped them save time in their everyday teaching activities.

Comments from some participants supported this understanding:

> Things became much easier when ICT became available. … I remember earlier, I always needed to print notes and provide hard copies to students. But now we don't need to do that, we can just upload the soft copies in the students' folder. … It's very useful for our work. We can share information and notes with colleagues and students. I think many are using it rather than giving hard copies of hand-outs to students. (Raufa, IN)

Teacher educators' activities related to their everyday teaching such as printing materials, providing hand-outs, carrying hand-outs to class were replaced with sharing these through digital tools. Other examples of such sharing were discussed between Zeena and Faiha:

> Zeena: When we started using Dropbox, it was very easy to share hand-outs with other campuses as well as students.
> Faiha: Now it is easier when students are given something to read, it could be given through a shared network, or putting it in the Dropbox. Both ways are very useful for me. When I go to the class I don't need to have heavy hand-outs in my hands. (Zeena & Faiha, FG)

Digital technologies helped teacher educators share teaching materials between colleagues and students. Teacher educators' comments indicate that they realised a number of benefits when using specific technologies. These benefits include ease of accessing and sharing information when using computers in classroom teaching. However, their adoption was mostly related to the ease and efficiency that technology brought to their workplace. This was more clearly apparent when they discussed the problems and difficulties when using virtual spaces (see previous section). None of the virtual spaces were regularly used by teacher educators because of the access problems they faced. Data in this sense suggested teacher educators' habits of using what works best was decided based on the benefits they gained, while also avoiding tools that created problems for their practice. These habits eventually made teacher educators choose PowerPoint as a main tool for their teaching.

PowerPoint (PPT)-assisted and content-oriented pedagogy

Many teacher educators used PPT as the main tool supporting their pedagogical practices. Moreover, informal observation through the 'hanging out' approach also documented a number of journal entries on this understanding. This understanding was drawn from some teacher educators' comments on their use of PowerPoint and how they use it.

Using ICT means using PowerPoint: Three participants out of eleven described their use of ICT as means for using PowerPoint as shown in the extracts below.

> When I hear about ICT, the first thing that comes to my mind is PowerPoint and what I do with it. (Nisha, IN)
>
> Using ICT in teaching … is using PPT. I use PPT in all my content teaching classes. (Raufa, IN)

The two comments indicate that meaning of using ICT is using PowerPoint. Another participant provided more details on this meaning:

> Teaching with ICT is teaching with PPT. … I have PPT slides for the lessons. From the start of the lesson to the closure [conclusion of the lesson], I include in the slides. That means I use lesson a starter, activities, explanations, examples, closure. (Haula, IN)

The comments clearly show that teacher educators' understanding of using technology is dominated by using PowerPoint in teaching. However, their use of PowerPoint is always related to their pedagogical thinking.

Using PowerPoint for teaching content-heavy subjects: A number of teacher educators highlighted the reasons for their adoption of PowerPoint, as it enabled them to teach content-heavy subjects. The extracts drawn for this understanding were generated from number of data sources including the field journal entries.

These extracts begin with Raufa's comment:

> ICT [PPT] helps me to cover heavy content subjects. I put all the important ideas that I need to explain in my slides. (Raufa, IN)

PowerPoint not only helped teacher educators cover the content, but answered students' questions related to unclear areas:

> For example, instead of answering a question or showing an answer on the board, it would help me …to show and discuss the answers by going through the slides... It won't take much time because I don't need to write on the board. It saves time. (Faiha, IN)

Apart from these, some have commented on other benefits such as how the PowerPoint as a tool help them in their explanations of the lesson:

> Faiha: Using PPT is the most common thing in our teaching. I think it helps a lot for our teaching.
> Zeena: We can use attractive and interesting visual materials such as diagrams, concept maps, images, audio, and videos while explaining…[referring to use of PPT]
> Faiha: For me, using many tables, concept diagrams and images is very helpful for students' understanding… The best thing is…we go to the classroom having all that in our slides. (Faiha & Zeena, FG)

As PowerPoint was the tool most commonly used by teacher educators, I had a number of documented journal entries about teacher educators' work with PowerPoint during their preparations for teaching. Some of these have supported my understanding of how PowerPoint was used for teaching content-heavy subjects:

> I often hear many of my participants complaining about spending great amount of time for lesson preparation. Later, I started realising what they really meant… In fact, I started noticing many of them spending time sitting at their computers, flicking the pages of the books, online materials, webpages, images from Google, and very involved in preparation of PPT. I observed this in most of my visits to my participants' work stations. Today, for example, I visited six of my participants' rooms. I found all of them occupied with PPT preparation. Last week the semester started, therefore it seems that many of them are so

> occupied in preparing slides for their classes. Whenever I visited them, I purposely talked about their presentation so I got some time to observe what they were doing. I sometimes needed to give a few tips for making the presentations creative. My purpose of this involvement becomes really useful later on. (22 January 2012, FJ).

Apart from what I observed, I also had some informal conversations regarding how teacher educators prepare their PowerPoint presentations, which indicated their aim of teaching content through PowerPoint. One example is given below:

> When I went to Nisha's room [work station] that day, she was preparing a presentation for her class. We had an informal conversation about her presentation. I observed that she had loads of books piled on her desk. Some of them were kept open, whereas others were left with bookmarkers. Some books also had got colour stripes on them. I asked her,
>
> Researcher: You seem to be really busy with your work. What's on today?
>
> Nisha: Yeah, this is a new subject. It is really hard to get everything written down. I am trying to bring all the important ideas into these slides. (25 January 2013, FJ)

Teacher educators used PowerPoint for teaching due to its relevance to their pedagogical purposes of teaching content. It was thus adopted by almost every single teacher educator participant in this research. Some teacher educators even highlighted that it has sort of replaced the old technology (white board) with new technology (computers) in their practices.

PowerPoint is replacing the board but more helpful for teaching: PowerPoint is useful for teacher educators teaching than the old technology they used before the advent of computers in their classrooms.

The comments on this begin with discussion between Haula and Meera:

> Haula: Most of our staff, what they teach through ICT [PPT] is only delivering information using PowerPoint presentations. I don't see much change in the teaching.
>
> Meera: That could be true in a sense that most of our teaching remained as it was before these facilities became available. I would say, instead of using the board when we were students, we sort of changed to PowerPoint.
>
> Haula: I believe PowerPoint is a very powerful tool, but we don't seem to be using it the best way. (Haula & Meera, FG)

Though teacher educators used PowerPoint, it did not bring much change to their approaches to teaching. The only difference was that they did not need to write notes on the white board. The comments by Nisha further supported this understanding:

> Nisha: In traditional teaching, you sort of write everything on the board, and explain while writing. And students take notes and listen. But when ICT is used all the information you need to explain is written ahead of class time. When you want to explain you can put on the slide you want on. You don't need to write much on the board.
>
> Researcher: So does that mean it is replacing the board?
>
> Nisha: You could say that, but it is much more helpful for teaching than the board. Because we get enough time to discuss in the class instead of spending time writing notes on the board. (Nisha, FG)

Apart from the comments above, the understanding of teacher educators' content teaching through PowerPoint was clearly demonstrated in teacher educators' classroom teaching.

> At the very beginning of the lesson she [Meera] put her slides on. She explained important points related to some theoretical knowledge. She continued explaining what is written on each slide until she finished ten slides at a stretch. (Meera, CO)

> She [Faiha] started her lesson with a question on her first slide. She talked with her students for 2-3 minutes. Then she started her explanation regarding the main ideas of the lesson. She had many diagrams, pictures, graphs, videos, and tables… in her slides. But mostly they were related to the content she covered in that lesson. (Faiha, CO)

Teacher educators used PowerPoint, replacing the old technology of board, to explain the content of the lesson and help their students to rehearse and memorise the content being explained. The use of this tool thus has remained mostly on teacher educators, rather than allowing the students to use it. However, teacher educators tried to engage their students in the learning process while using PowerPoint.

Interactive but the concentration is on the content teaching: Teacher educators often tried to engage their students during their explanations of the lesson. My contention from the analysis of this practice, however led me to speculate that their attempts were mostly focused on content rehearsal.

Comments by teacher educators, observation notes of their classrooms, and field journal entries supported this understanding as given in the following extracts, beginning with Faiha's comment:

> I use many interactive activities when teaching. I often open discussion points when I explain. I bring real examples to make them learn better. I provide students time to think in order to understand the concepts and generate their own ideas. (Faiha, IN)

Considering that Faiha's comment was at the very early stage of my data collection, I tried to understand what interaction meant when it comes to teacher educators' teaching. After my observations of six teacher educators' teaching, I realised that it means letting students rehearse the content to be learned. This understanding was supported in many examples. Three are given below.

> She (Nisha) presented the information written on slides and was also asking questions related to different points. Students were very interactive in terms of answering the questions. The questions were completely from the content she was teaching. Sometimes definitions of the terminologies, other times … She also asked students to note down when important points are discussed. …, I clarified about the main objectives of that lesson with regard to her explanation of many definitions and terminologies repeatedly. She responded that "…since it is the beginning of the year, and the students in this group are not from [subject name removed] background. They need to get familiar and learn these concepts so that it will be easier for them to understand the later concepts." (Nisha, CO)

This example shows how much Nisha focused on her students' learning of the right answers to the questions she asked. Another example of interaction complemented the same understanding:

> Shaina explained a large amount of definitions that students were required to learn. Every time she finished explaining a definition, she asked questions regarding it and students were asked to answer. Students were asked to give the same sort of examples that were discussed in the explanations. Though students interacted with their teacher or with the student next to them, they were mostly discussing the knowledge that was explained to them. Shaina did try to increase students' interaction and engagement. However, their engagement and interaction was concentrated on learning knowledge and memorising the content covered in Shaina's explanation. (Shaina, CO)

Though students' interactions with each other were seen, there was little emphasis on them constructing their own knowledge; the concentration was on rehearsal of the content being taught. This understanding is clearly supported with some reflections written in my field journal:

> After observing Meera, teaching of two hours (one hour for her explanation and another hour for students' presentations), I managed to clarify some aspects, such as her reasons for explaining the content of theories and her attitudes (not asking any questions regarding what her students were presenting nor helping her students to reflect on what they were presenting) towards her students' presentations. For the first clarification, she responded that the background of theoretical knowledge is very important for her students, as it is the start of the module. For the second clarification, she explained that her students are not very competent in presenting in English. Thus, it would be difficult for them to reflect on what they presented. Reflecting on this, I wondered whether her students would have learnt anything from this activity. (2 February 2012, FJ)

This same understanding was discussed in focus groups later on:

> We explain the content through PowerPoint presentation, we give activities to students, we also discuss while presenting. I guess you are right, that we use PowerPoint more often for the reason of explain the content. (Meera, FG)

In the last phase of my data collection, I sought to validate my understanding regarding what interaction means. Nisha confirmed it as follows:

> The meaning of student interaction and engagement for me is trying to ask questions in relation to the content I teach. Normally, it is a way of checking whether my students understood or followed the explanation or not. (Nisha, F-IN)

Teacher educators' aim for student interaction is about providing opportunities for students to rehearse the content to be learned, rather than construct their own understanding. Since the use of PowerPoint was the most common tool in my participant teacher educators' teaching, I sought to understand their pedagogical goals for using this particular tool. Data from multiple sources indicated why they selected this particular tool. For example, Raufa found it useful for covering the content of the lesson, whilst Faiha found it useful for explanation, as it made it easier to answer students' questions, as her PowerPoint presentations meant she had written down everything in advance. This saved time for her to explain whenever a student asked a question that needed clarifications.

As reported, regardless of the time it takes to prepare slide presentations, teacher educators found PowerPoint a convenient tool to prepare the content to be taught ahead of their teaching, as indicated in both field journal entries (22 and 25 January, 2012).

Further, Nisha's statement regarding her use of PowerPoint to "get everything written down" clearly shows that PowerPoint replaces the white-boards they previously used. Data on the theme (PowerPoint is replacing the board but more helpful for teaching) suggested that PowerPoint is used by teacher educators the same way they would have used a white board. Nevertheless, the difference is that it is ostensibly more helpful than a board because PowerPoint means teacher educators can include diagrams, videos, and tables and save the files to use again.

Since Haula and Meera indicated that they include many activities during their use of PowerPoint, I wanted to observe these in action. For example, in both of Meera and Faiha's teaching, they used PowerPoint to explain the lesson. Though it may have helped their students' engagement and interaction, PowerPoint did not alter the main pedagogical approach, because it was merely used for delivering content. This restates what Nisha said about writing everything in the slides. Other examples of classroom teaching reinforced the practice of content delivery using PowerPoint across all six participants who I observed their teaching. Some journal entries noted my reflections about this:

> Some journal entries noted my reflections about this:
>
> > Many of my participants mentioned that they follow interactive learning when using ICT. They mentioned that ICT "enhances students' learning". Then I came across a question what do they mean by enhancing students' learning? This was a question I had in mind when I completed my initial interviews with eleven participants. However, when I observed Nisha and Faiha's classroom this week, I sort of got an idea of what they really meant by enhancing students' learning. For example, I have observed Faiha arranging some discussions regarding what she explained. The same patterns I have seen in Nisha's teaching. In fact, she asked many questions in order to increase student interaction when using PPT. At the end of the observation, I clarified about the activities they had in their teaching. Both of them mentioned that giving those types of simple discussions while explaining can enhance students' learning and their interactions. [I wondered] whether what they both did enhance student learning or not. … I can clearly see the interaction but the question is does that improve student learning or thinking? What I observed were students answering questions related to what they explained... The conclusion I could draw is both [Nisha and Faiha] concentrated on making students rehearse the content knowledge taught. (30 January, 2012, FJ)

Though I found some differences between the way PowerPoint was used by Meera (explaining definitions), Nisha (reviewing questions and answers), and Faiha (explaining important parts of the lesson and clarifying her students' understanding), their goals were the same, which was delivering the content. Data in this regard suggested that PowerPoint was the dominant tool in these teacher educators' pedagogical practices, selected because of its efficiency for delivering content. This finding clearly links to the adoption of PowerPoint to better deliver content. It also links to teacher educators' wish to make their teaching easy and efficient.

When examining teacher educators' practices, it is noteworthy that they formed a specific habitus related to teaching content via PowerPoint. This habitus appears to have emerged from Maldivian cultural learning norms of rehearsing content without understanding. My findings are suggesting that teacher educators' own learning experiences of learning to recite the *Qur'an* and early schooling has had a powerful influence. Teacher educators replicated their experience of receiving content knowledge as transmitted by adults who already possessed it. My further analysis of teacher educators' pedagogical and technological practices led me to identify three specific types of habitus associated with their practices.

Vignettes on specific types of habitus

With the emerging understanding of teacher educators' content-oriented pedagogical practice using PowerPoint, I sought to examine this specific habitus in individual cases. I therefore, selected three teacher educators (Shaina, Nisha, and Yusra), and considered their backgrounds and individual journeys (data analysis-step 4). My analysis of these cases led me to question regarding the most significant influences on their practices: Shaina's grandmother; Nisha's attempts at implementation of constructivist learning; and Yusra's concerns about the availability of facilities.

a) **Shaina** repeatedly discussed her grandmother's teaching, valuing the teaching and learning method she experienced from her grandmother. Shaina's cultural practices linked to this are evident in her pedagogical and technological practices as a teacher educator (cultural habitus).
b) **Nisha** discussed how much she tried to implement constructivist learning in her teaching. She also believed that it does not work for her teaching because of the pedagogical context. This suggests that the organisational context (students' expectations, colleagues' practice) has been a more powerful influence on her pedagogical and technological practices as a teacher educator (pedagogical habitus).
c) **Yusra** always complained about the available facilities in her workplace. Regardless of her own experience of online learning and her knowledge about the potential of technologies for teaching, she persisted with PowerPoint as a means of content delivery (technological habitus).

When selecting these teacher educators, consideration was also given to the amount of data I had about them, and how well I could validate and triangulate my understanding during the examination of their habitus. Selecting these cases does not mean that other

participant teacher educators were not influenced to the same degree or less. Instead, these cases represent examples of teacher educators' specific habitus types.

Apart from the data sources (interviews, observation, focus group conversation, and hanging out) used, some selected memos written during the analysis process are tagged in order to complement the reported findings. These memos were useful for me in building connections from and across multiple data sources when examining teacher educators' habitus types.

This section presents three vignettes, demonstrating habitus types in specific cases describing the cultural, pedagogical and technological aspects, which are presented in turn. Participants' vignettes are presented in block quote style, interspersed with minimal commentary.

Shaina's Cultural Habitus

Shaina grew up in a middle class family. As she did not go to a formal school, she explained little about her schooling experiences. However, she shared many examples of her learning experiences at home and other special classes (not formal schooling). She completed bridging courses to start her teaching career. After obtaining certificate level courses in the Maldives, she initially worked as a teacher in a school. After ten years of experience, she gained her first degree and became a teacher educator where she is currently working. Shaina had early interaction with technologies, such as movie cameras and musical instruments. However, her first experience of using a computer was when the computers were introduced at her workplace in the mid-2000s. She had struggled using computers at the beginning; however, because of her love for technology, she later became very adept in using computers. Shaina's pedagogical practice was influenced by her early social cultural learning norms of the Maldivian culture.

Shaina's Learning Recitation of the *Qur'an*

Shaina always talked about her grandmother and how her early experiences of recitation of the *Qur'an* took place.

> Her extracts begin with comments on her early learning experiences:
>
> > My first school was my home. My first teacher was my grandmother who taught me recitation of the *Qur'an* ... My grandmother started teaching me when I was only three years probably, I don't exactly remember my age but I do remember her teaching. (F-IN)
>
> Shaina's learning to recite the *Qur'an* started from her home with her grandmother. She used specific tools for teaching the recitation of the *Qur'an*, as Shaina noted:
>
> > My grandma used a shallow wooden box for teaching me Arabic alphabets so that I could start learning the recitation of the *Qur'an*. It is a like a small

> squared box. Inside that box is clean and fine white sands from our beach. After I recognised letters in Arabic she used another flat board (a wooden flat board) for teaching me to read words in Arabic. (IN)

After recognising Arabic alphabets and words, her grandmother continued with parts of the *Qur'an*, trying to make Shaina fluent in the recitation. Shaina said:

> Then my grandmother taught me parts [verses] of the *Qur'an*. … She always concentrated on teaching me how to read properly and become fluent in the recitation. She normally allocated one lesson for each day. This means she selected a part from the *Qur'an* and read it aloud a couple of times. Then I practised reading the part repeatedly after her, reading until I become fluent. (F-IN)

Shaina later joined a *Qur'an* class to learn proper recitation [*Thanjweed*] of the *Qur'an*. She mentioned:

> My teacher was a very famous *Qari* [local name for *Qur'an* teachers] and he taught me recitation of the verses of the *Qur'an* well. The primary method … was making me rehearse after listening to his reading. His concentration was making me fluent in recitation of the *Qur'an*, in accordance with *Thajweedu* [the proper way] (F-IN).

Shaina believed that learning recitation of the *Qur'an* is very different from all other forms of learning. It does not necessarily need to be understood; rather it is to make a habit of everyday reciting as part of religious rituals. She gave reasons for this:

> Learning recitation of the *Qur'an* is very different from learning other areas. Because our beliefs and the principles of Islam teach us to recite the *Qur'an* for seeking blessing. And we believe that through the recitation we gain it even without understanding the meaning. [some benefits are] Such as when the *Qur'an* is taught, it also makes us learn how to use the reading of the *Qur'an* for different purposes. And how to make use of it in our real life. Therefore, I can say the way the *Qur'an* is taught is a very helpful way of learning for our students. (FG)

Shaina believed that the main purpose of teaching is enabling learners to recite the *Qur'an* properly is for gaining *Thawabu* [blessing] not understanding what learner recites. Shaina said:

> Our strong belief is that though we don't understand what we read we gain [God's blessing or reward] just through the recitation. I think our teaching of the *Qur'an* is very much about applying it in life, which means that the main purpose of teaching to recite the *Qur'an* is reading it in everyday life, because the *Qur'an* is very much relevant to everything we do. This means that reciting it in everyday prayers, and reading for various purposes to earn *Thawabu* from God. I think the purpose of making children learn to recite it is [inculcating] the belief and habits of reading it... Though young children don't realise the benefits at their early age, when they grow older they will ultimately realise the benefits of gaining *Thawabu* out of recitation. (FG)

Shaina's vignette indicates that she strongly believed the way the *Qur'an* was taught is the best way for learning the *Qur'an*; she valued it immensely, and considered it as a proper learning form. Data regarding her practice showed some links between how this learning took place and how she taught and used technologies.

Shaina's Pedagogical and Technological Practice

Shaina's approaches to teaching and her conceptualised roles as a teacher were very much influenced by her grandmother as a role model. The extracts from her data showed

connections between her early learning experiences and the practices formed later. When my preliminary analysis showed this connection, I discussed it with Shaina, asking her views regarding the effect of her own learning experiences.

Shaina comments begin with her agreement on my understanding:

> Obviously it does, it does. [agreeing on the influence of early learning] I completely agree, because the way we learn things, makes us believe that it is a successful way to learn things. If I learn something through rehearsing I would believe that it could be effective for another person too. I agree with that. It happens naturally. (FG)

Shaina clearly supports that the practices she formed later could be affected by the influence of her own learning. Using examples of her role as a teacher, she clarified her views on teaching:

> First of all, I find teaching involves the interaction between the teacher and the learner. I believe my role is to help the learner to learn, however or whichever method I use for that purpose. The second thing is even if I use ICT, my practice will still be the same, which means my philosophy does not change. It goes with the same idea. (FG)

Shaina did not believe that any particular teaching method was important for enabling students to learn. Shaina tries to involve her students in the learning process in order to motivate them for learning. She explained:

> I believe if my students are not engaged with me in the learning process, they are not learning. I can say depending on their interaction and involvement how much they are learning and how much they are motivated to learn what I teach. I try to motivate my students so that I can achieve my goals for the lesson. (FG)

The meaning of learning and how learning takes place was observed in Shaina's classroom teaching as I noted:

> I just completed observing Shaina's teaching. It was held in an auditorium. Regardless of her uses of many tools such as her mobile, audio, video clips and PPT, these tools did not facilitate her students to construct their own understanding, rather to help them rehearse the content explained. Shaina mostly used a PowerPoint presentation that contained a large amount of definitions. Whenever, she completed explaining any point she asked questions regarding it. Students thus, were expected to provide examples on the definitions explained. Shaina's approach to teaching in this manner completely relied on expecting her students to rehearse the content knowledge that she delivered (7 February 2012, FJ).

Shaina's teaching role was mostly focused on motivating her students to learn what she explained. Thus, the use of different technologies helped her to deliver the content. Learning in these extracts was about rehearsing the content knowledge she explained, rather than students constructing their own understanding. Shaina also believed that her use of technology does not change her pedagogical approaches. She said:

> I find ICT does not change the teaching style. It is completely up to the teacher how she/he teaches with or without ICT. I don't think it makes much difference in terms of the way we teach. (IN)

Shaina sees the teacher's role as being about helping others learn. However, she practises this by imitating the methods internalised as a child when learning the *Qur'an*: delivering information and expecting its reproduction.

In the Maldives, children learn to recite the *Qur'an* at a very young age, some as early as two. It is a religious and cultural practice, and is seen as a prime responsibility of parents. The *Qur'an* is written in Arabic, even though this language is not taught in the Maldives, as part of the school system (refer Chapter Two). Children are taught to recite the *Qur'an* but not taught to understand or gain meaning from it. Shaina, for example, saw learning as the same as rehearsing knowledge without it necessarily having meaning for the learner. Moreover, she saw teaching as delivering content and helping students to store it in their minds. Shaina used technology to help learners rehearse the content she taught. This process directly mirrors her childhood learning in reciting the *Qur'an*. Shaina's experience highlights a common theme among participants: what they understand (and practice) learning to be like.

Nisha's Pedagogical Habitus

Nisha completed her undergraduate and graduate studies overseas. She had experience of teaching in a school prior to becoming a teacher educator. Nisha had used computers during her schooling, and was fascinated with technology's potential for her teaching, having used technology for her own learning. Thus, she believed it could help students to learn as well as make her teaching better. However, Nisha's pedagogical practice was influenced by her institutional context as seen in her following vignette.

Nisha's Experience in her Pedagogical Context

Nisha often discussed different pedagogical approaches and their suitability for her teaching context. She believed that explaining the content knowledge was important for her students as they needed to sit examinations later on. Through this view of practice, Nisha helped her students to receive and rehearse knowledge, rather than helping them to construct it. Extracts below support my contention regarding this. The extracts presented here are mostly drawn from later phases (third and fourth) of data collection in which I discussed my preliminary understanding of how Nisha's practice was shaped. Thus, many written memos during the analysis stage and field journal entries are included as part of examining what Nisha shared in different phases.

These extracts begin with Nisha's comment about her own practice:

> In our courses, content materials are important because students are required to sit examinations. If most students are unable to do the examination to the level expected, it means my teaching was not successful. For me that means I did not do my job well. Perhaps the whole education system is examination-oriented, thus our thinking and the meaning of learning also change because of the idea of the examination. If there is an examination to sit, everyone focuses on getting the most important ideas well, so that they would be able to do the exam well. (F-IN)

The examination-oriented system in the Maldives seemed to be one of the factors that influenced Nisha's shaping of her practice as I further understood:

> Nisha feels that she would be blamed if her students get low marks. This was an interesting idea that I came across when listening to her conversation in her FG. She said: "If the students do not score well it gets back to the teacher. Many of us are very careful about covering the content of the module, so that students would be able to answer the questions well" (FG). I wondered what she really meant by that. Maybe her view of a good teacher is always associated with her students' performance. (Memo written on FG)

Nisha concentrates on teaching content. The context factor in the extract below, drawn from a number of sources at different times of data collection, shows this:

> Nisha argued in the focus group that she had to go with the policies established in her workplace. "We have an assessment policy which demands 50% assessments in the exam conditions. That means that a student's learning is tested based on the content covered" (FG). The idea made me reflect on what she really meant by that. I discussed this idea again in her follow-up interview. She said: "The exam-condition is considered only when students are sitting the examinations; it then does not include the assignments and projects. Students may get help from others for completing those" (F-IN). This made me believe that the learning in this sense is regarded as receiving knowledge and restating, rather than constructing. If that is so, there is no new knowledge being produced, perhaps everything is replicated. (22 April 2013, FJ on FG & F-IN).

When I examined how Nisha shaped her content teaching, data drawn from different sources closely supported my contention:

> Reflecting on what Nisha shared about the teaching modules, I thought normally these modules are written by teacher educators themselves. It means that subjects that Nisha teaches are most probably written by her. If she does not concentrate on teaching content why would she design a content-heavy module? In an informal setting, she shared a module written by her for MA students. It was full of content (chapter by chapter of a book). This made me wonder what she meant by one of her previous conversations: "Our understanding is we should be able to cover 90% content during the teaching hours. May be due to this reason our teaching becomes very much content-focused" (FG). Later, in her follow-up interview, I raised this issue to clarify more about it. She responded: "The modules are accredited from the course committees and it would not be passed unless it has enough content stated" (F-IN). I thought maybe this is part of what is happening in teacher educators' formed pedagogical practice. The system then is partly influencing what Nisha thinks is appropriate, according to what these committees decide. (Memo written on FG & F-IN)

My argument regarding Nisha's content teaching being influenced by the context of practice was not only supported once, but repeatedly she confirmed the same understanding.

> Nisha said: "Students look forward to the explanation and the important ideas we bring into the explanation are extremely useful for their exam… Our students expect us to focus on examinations even in this level of education" (FG). This idea was discussed in her follow-up interview too, as she responded: "All my students expect me to explain the important parts for the examination. They even ask which parts of the chapters or books will be important for the examination" (F-IN). This idea made me think that may be this could influence her to follow what her students expect. (22 April 2013,FJ on FG & F-IN)

The influence of the pedagogical context was apparent in Nisha's formed pedagogical and technological practice. Her beliefs regarding the importance of content for her students, her efforts in preparing them for examinations, her commitment in following the policies that are established in her workplace influenced her shaped practice.

Nisha's Pedagogical and Technological Practice

My argument regarding the influence of pedagogical context was clearly demonstrated in Nisha's views on her role as a teacher, her selection of specific technological tools, and her principles of teaching as in the extracts below. For the third time in my data collection, I clarified what Nisha believed about good teaching. She said:

> For the third time in my data collection, I clarified what Nisha believed about good teaching. She said:
>
> > Teaching for me is achieving the objectives of the lesson. These objectives are very much related to the content that students need to understand. I explain those things repeatedly. If I don't explain, I don't feel that students get the main ideas thoroughly. My prime concern is making students understand what I teach. If I have any doubt about it, I will continue explaining. This is one reason why I often ask many questions during explanation. When explaining I would be also conscious about the examinations. That means this content would be examined and they should be able to answer the questions well. (F-IN)
>
> Explanation of the content is given the prime focus in her teaching. My understanding regarding this was more clearly reflected during my analysis of her practice.
>
> > Nisha seems to be convinced that the best pedagogy is repeatedly explaining the content, clearing students' doubts, helping students learn, and preparing them for their examination. When she talked about explanation, I asked more than twice what she meant by explanations. In response, she gave an example of specific content in her subject area that perhaps was complicated for her students to understand without explanations. For more clarification, I also asked whether she believed that that particular part could be assigned for reading or not. She responded that "though I give it for reading I would still see the importance of its explanations" (F-IN). Nisha's responses more than a couple of times stressed the importance of explanation in order to help her students perform well in their final examinations. (Memo written on F-IN)
>
> My argument regarding her concentration on teaching content was also supported in one of her initial interview (at the very early stage of data collection).
>
> > Any activity [task] I carried out is very much related to designing simple learning ideas for students so that they would be able to get the main ideas easily. If I use ICT, it makes teaching much easier. For example, if I use a diagram, I always think this will make it really easy for my students to understand. (IN)
>
> When I first listened to her interview, I thought her use of diagram will be more enabling her students to think and create knowledge. However, in one example from her classroom teaching showed the opposite of what I thought.
>
> > Nisha used a diagram in her PowerPoint slide to help her students learn the part of a cell. She repeatedly asked questions about the labels she explained.

> For the third time, she showed the same diagram and asked students to label parts of it based on what they learnt. (Nisha, CO)

After observation of Nisha's teaching, I had written some reflection notes on what I observed in her teaching as given in the extract below.

> When I observed Nisha's teaching, I felt the whole classroom teaching was completely content-oriented and teacher-centric though she asked some questions in between, these questions were mainly related to the content knowledge she explained. The lesson contained a number of terminologies or concepts; I could not see any importance for explaining them. When I clarified the reason behind her approach to this, she responded: "Since it is the beginning of the year, and the students in this group are not from [subject name] background they need to get familiar with these concepts so that it will be easier for them to understand the later concepts." I thought it could have been given for their reading. (23 January 2012, CO & FJ)

The explanation above was more about her teaching approaches; however, her use of technologies was closely examined when I validated my argument regarding her content-oriented teaching when I had a follow-up interview with her. Nisha said:

> I try using ICT with different teaching methods, sometimes giving activities, lectures, and inquiry based. … For example, explaining the content of the lesson and giving some questions and discussion points during my presentation. I allow students to discuss and answer some questions… [researcher probes, as to how] It means that to engage students, I try to ask questions in relation to the content I teach. Normally it is a way of checking whether my students follow the explanation or not. (F-IN)

This extract suggests that her choice of tool was decided based on how she can deliver the content that she wants to explain. As my observation notes demonstrated that Nisha mainly used PowerPoint in teaching, I clarified more about how it helps her teaching in the last phase of data collection (follow-up). My analysis of what she shared and what I observed were written in the memo below:

> Nisha said: "I get to discuss more through asking questions and designing simple activities to help my students learn. It [interaction] helps students learn better. Mostly I guess it is very much related to the important points covered in the content. I want my students to learn and clear their thoughts about various concepts I teach. Mostly my activities are related to the content I teach" (F-IN). This idea was supported in her teaching, as I observed, she kept asking questions about what she was explaining (CO). It definitely created interaction between Nisha and her students; however, the interaction was more on answering the questions related to what has been explained. (Memo written on F-IN & CO)

Nisha confirmed my understanding of her content-oriented pedagogy being influenced by the pedagogical context of her workplace. She shared more examples when I clarified it in the follow-up interview.

> When putting an effort into designing discussion style or activity-oriented teaching, I know it is something good. I get to listen to my students' ideas. But I believe, even after the discussion, I would prefer to explain the important parts of the lesson and bring a closure to each part. I think we should supposedly teach that way. But I hardly get to do those activities in my normal classes, maybe because of many factors. One thing I notice is that we need to plan really well if we are to design activity oriented lessons. Sometimes we don't have enough time to do all the planning. Say for example, this semester, I'm teaching a new subject, so I have to prepare great deal of materials for students. Otherwise students will not have hand-outs. Most of the time we don't have enough copies of the original reference, so sometimes it is a big challenge. Students need to get hand-outs in each

> area of the module. Thus, I don't get much time to plan activities. But if I am to take the same module next year, I would have more time to think about such type of activities. I think another factor is when teaching content-heavy subject, even if I use images, videos or other helpful ICT materials, still I do spend a great deal of time for explanation. Normally the style is still that of the traditional approach to teaching. That means the teacher is talking most of the time, and the lesson is very much content focused. The explanation becomes the major part of the lesson. (F-IN)

Nisha does not use student-centred activity-oriented tasks because she does not think it helps them learn what she wants them to know. Again, this is a focus on reproduction of knowledge.

Nisha experienced the pressure of her context of practice on her teaching approach, and the pressure of content-heavy modules, 50 percent of assessment policy (summative assessment at the end of the term), 90 percent content coverage of the modules, students' expectations regarding explanation of the content, students' inability to learn through activities, and social pressure on students' performance. These factors heavily influenced Nisha's teaching practice. Moreover, her negative perception about students' ability to grasp the main ideas through activities led her instead use strategies for explaining and rehearsing techniques to help her students learn.

Yusra's Technological Habitus

After secondary school, Yusra joined a diploma of teaching course in the Maldives. Later, she obtained her qualifications overseas. She had teaching experience in schools before becoming a teacher educator. Yusra had used computers and participated in online learning forums. This experience led her to adopt technology in her practice. However, her use of technology was influenced by her institutional context, as illustrated in her vignette.

Yusra' Technology Use Experiences in her Workplace

Yusra always complained about the technology infrastructure and the related professional learning in her workplace. Apart from what she shared, I also observed many incidents that supported her argument regarding the difficulties she experienced. While reflecting on many of her experiences, I came to an understanding that Yusra's choice of using PowerPoint was likely to be influenced by what was happening in the technological context of her workplace. Extracts below confirm my contention regarding how she shaped her technological habitus.

The extracts start from observation notes of Yusra's classroom teaching:

> When she [Yusra] played the video it worked very well. However, it was downloaded in advance. When I [researcher] asked about the reasons she [Yusra] said that the Internet is very slow and sometimes it doesn't work. She added: "If I used it, it would waste lot of time" (CO).

Yusra always raised concerns regarding the Internet facilities during her initial interview. After I observed her teaching, I found some of her concerns

were valid reasons for certain ways in her use of specific tools. Understanding her limited use of specific facilities was important for me to examine due to her background in online learning. A journal entry noted:

> As Yusra had her own learning experiences using online forums, she showed her interest in promoting online learning environments. In talking about it she said: "We have financial constraints. We need much equipment and many other facilities such as video conferencing, e-Learning programmes, and more virtual forums. We need more technical staff members and high speed Internet" (IN). In an informal conversation, Yusra mentioned that her MA research was about the technology infrastructure in her workplace. It means that she may have experienced the paucity of technology infrastructure more than her other colleagues. (28 January 2012, FJ)

Although Yusra had an interest in promoting or using various technologies, the difficulties she continuously experienced discouraged her from continuing to experiment with available facilities. When examining her practice, I noted in a memo:

> Yusra said: "I get very upset, when I want to play a simple video clip, sometimes when it gets stuck or when I don't get access to the appropriate programme in the system. It happens very frequently. I think the media section needs to update the systems on a regular basis. I think [Institution's name removed] hasn't got many computers labs, which make it difficult to monitor…yet they [media staff] are not able to do that" (FG). Such concerns were often raised by Yusra. When I checked my participants' concerns regarding the virtual spaces and technical difficulties, I found out that most concerns were raised by Yusra. I thought is it because she tried these facilities more than others at her workplace? (Memo written on FG)

In her first interviews, Yusra indicated her use of some virtual spaces and the benefits she gained through them. However, that did not continue because of the complications in using them:

> Since Yusra had experience using virtual spaces in her own learning [MA in e-Learning], that experience made her think about the potential of virtual spaces. She commented: "Moodle, GEM, Self-service, these tools have great potential for use in our teaching and learning." However, according to her, she does not get benefits from these tools, as she always face "many technical difficulties to go with these things." She further confirmed that "sometimes a particular tool may work very well other times it doesn't. You can hardly understand what is wrong when dealing with it." (Memo written on IN)

Some of her concerns were regarding the technical support that should go along with these facilities. Yusra mentioned:

> Yusra raised concerns regarding technical problems when playing downloaded clips. She believes that these problems may be resulting from not having appropriate programmes or versions. "I find many times the computer software does not work with the downloaded clips." She argued that it could have been fixed easily. (IN)

During my analysis of Yusra's case, some field journal entries supported some of her arguments regarding the technical difficulties she experienced:

> Yusra said: "Though we have three technical staff, we hardly get their help when in need" (IN). When I reflected on this comment, I realised that I have noted more than three incidents where Yusra experienced technical difficulties (twice in her office, once in her classroom). Perhaps this led her to complain too often regarding what she experienced when using the available facilities in her workplace. (Memo written on IN)

Yusra, also complained regarding some complications that are associated with how the facilities are operated in the institution:

> For example, if I want to upload hand-outs to student share, I don't get access to it without the help of the media section. It makes things complicated. Sometimes I get very upset about that. Perhaps this is happening because these people don't understand the importance of providing the access to us. We don't get access to student share. I don't get the idea. Why or what would be the reasons? It's much too difficult, so that whenever I need to upload something, I'll need to ask someone else from the media section to do it? That is ridiculous. I feel very disappointed sometimes. (FG)

Some of Yusra's experiences regarding the difficulties she had were also documented in my field journal entries:

> I [the researcher] went to remind Yusra about her classroom observation time. When I got in, I saw she was occupied dealing with her computer system. I stayed in her room for a few minutes. She was trying to download something for the class. Every time she pressed the download button, the system got stuck. After restarting a couple of times, she called the media staff to seek help. .... I [researcher] noticed the number of times that the media staff member restarted her computer; it seems he did not really understand what needed to be done. He tried different things in sorting it out. (2 February 2012, FJ)

The complication and technical difficulties regarding the use of available facilities at the institution led Yusra to rely on using the less troublesome uses such as PowerPoint.

Although Yusra recognised the potential and possibilities of using virtual spaces and online communities for student learning, her use of these tools remained limited because of the technical difficulties she continued experiencing when using them. These everyday experiences led her to choose what works without much trouble for her teaching.

Yusra's Pedagogical and Technological Practice

Yusra did not realise much difference when using technologies in teaching, as developing pedagogical understanding with technologies is not easy when having to be embodied traditional teaching.

My contention regarding this argument confirms the extracts below:

> When examining the idea of content-oriented teaching, I found Yusra in her early interview, mentioned that ICT "improves students' learning … allows students to learn, and rehearse the content knowledge… improves their retentions" (IN). When I thought back about her teaching, I learned what this meant to her practice. She asked her students to rehearse the song repeatedly, which was played on a YouTube clip. (CO) (Memo written on analysis)

My understanding of her practice being based on rote learning was much strengthened with her very first interview comment as she said:

> Usually, I download readings and materials. I use PPT presentations, as it's a very powerful tool with which you can include many activities, and "hot potatoes" software can be used to create multiple-choice questions, add videos, audios and quizzes, and puzzles. (IN)

Yusra followed teaching approaches that allowed her students to rehearse the content which needed to be understood. An example of her classroom teaching demonstrates this understanding:

> Yusra showed a video clip previously downloaded from YouTube. A children's song, through it, Yusra explained the main ideas of the lesson about teaching specific concepts. Yusra played another downloaded YouTube video to show as an example of how to teach that concept. She played a third video and discussed the examples. She then told her students that she was going to demonstrate an example of how these concepts could be taught. Yusra asked her students to go to the front of the class (where sitting arrangements were made on a mat). She asked a student [a student from another course] to run the activity for her. That student took the lead, and then Yusra played a fourth video about the same concepts that were previously explained. Yusra then asked her leading student to repeatedly sing the song and get students to repeat that song after her singing. And the student did the same, and the students passed on the objects related to the concepts and asked questions about the concepts explained. Yusra's students acted like kids in the activity. However, the entire idea of this example is getting students to repeatedly rehearse the content knowledge taught in the lesson, and how to conduct such activity for teaching the same concepts. (CO)

The following memo also confirms my analysis of this understanding:

> I was surprised with her response, when she said: "There won't be any difference in terms of the teaching method whether using ICT or not" (FG). I knew that her MA degree was in eLearning and she must have had some background about the pedagogical change that using technologies should bring. However, she may have learnt that theoretical knowledge but not necessarily practise it in her own teaching. I clarified this in a later conversation in the same discussion. She said: "How we teach here is simply using technology for helping our students learn better" (FG). This idea clearly supports what I observed in her teaching. Yusra used a number of video clips to help her students learn how to teach concepts (CO). Reflecting on her comments and classroom teaching, I realised that her use of technology might not have brought any change to her practice regardless of her background in technology use. (Memo written on FG & CO)

While examining Yusra's case, I realised that Yusra, relied completely on making her teaching easy and efficient when using technologies. She followed the teacher-centric approach completely even when using technologies in her teaching, as written in my field journal:

> When Yusra mentioned: "I feel I use ICT for my students' benefit rather than my teaching" (FG). I remembered what I observed in her class. I did not see any activity in which she allowed her students to use technologies. I clarified what she meant by that. She replied: "Using technologies for helping me explain, it then can be a benefit for student learning since it would make it easier to understand". She said in a later conversation: "If anything that does not help my student learning, I will not bring it in my lesson. Otherwise there is no point for me to use ICT." (FG) I thought, the meaning of enhancing student learning is perhaps helping students rehearse the content she explained. (29 January 2013, FJ)

Yusra continued using PowerPoint to deliver content without much thinking about its effects on student thinking and learning.

The vignette of Yusra's experiences outlines the various difficulties she encountered when using digital technologies. Because of this, she reverted to less troublesome tools that made it easier for her to deliver content. For example, she downloaded the video clips

ahead of her class and preferred using PowerPoint because she did not have to rely on the Internet. In addition, Yusra adopted technology as a communication tool because it simplified her pedagogical practice, for example by enabling her to provide electronic hand-outs for students instead of printing and carrying hard copies to class. Though Yusra demonstrated her confidence in using technology, her teaching did not make room for students to use it. Yusra's pedagogical practice was heavily influenced by her experiences of using technologies at her workplace. Her pedagogy, however, also was influenced by the cultural norms of teacher-centric and content-oriented practices, reflected in her own schooling and learning to recite the *Qur'an*.

Chapter summary

The chapter outlined important findings related to teacher educators' formed pedagogical and technological practice in the Maldives. The findings demonstrated that teacher educators' social and cultural learning influenced their shaping of pedagogical and technological practice. The findings also identified the influence of the institutional context which may have affected the shaping of specific technological practice among teacher educators. In the last section, teacher educators' formed practice, outlining vignettes on specific types of habitus were presented in order to identify the relationship between the shaped pedagogical and technological practices and their backgrounds. The demonstrations of different habitus (cultural, pedagogical, and technological) helped me theorise pedagogical and technological cultural habitus among teacher educators in the Maldivian context.

Chapter Seven: Discussion of findings

Chapter Six and Seven reported research findings of how teacher educators' pedagogical and technological practice was shaped in the Maldives. They uncovered important aspects of cultural and institutional influences on shaping teacher educators' specific pedagogies with technologies. This discussion synthesises and analyses data in the light of the literature and Bourdieu's (1977) habitus in order to answer my research questions.

Research Question 1: What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?

Research Question 2: How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?

Research Question 3: How do teacher educators form their pedagogical and technological practice?

Each of these research questions is answered in the following sections.

Research Question 1

What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?

This question involved two aspects of teacher educators' social and cultural learning norms: their learning recitation of the *Qur'an,* and their early learning experiences of schooling.

Influence of Learning Recitation of the *Qur'an*

In Chapter Two, I explained how, over centuries, the *Qur'an* is taught from an early age in the Maldives. Children are taught that they must recite the *Qur'an* word-for-word. They are not necessarily taught its meaning or inferences. This cultural practice is associated with religious rituals and principles in practising Islam in the Maldives. Through this rote learning, recitation, children learn to recite the *Qur'an* fluently in order to perform prayers and other religious activities when they grow older. Some research participants (Alia, Shaina, Yusra, Lamha and Zeena - see Chapter Six) shared experiences related to the learning of recitation of the *Qur'an*. These participants had similar experiences.

According to Shaina and Alia, this practice is often carried out by elderly people or grandparents at home. As these participants explained, children do not need to understand what they read, rather they only need to rehearse and drill until they become fluent in the recitation of the *Qur'an*. This particular cultural reproduction process suggests that learners may begin to value this practice of learning. Jenks (1993) argues that certain customs form habits in individuals within specific cultures. He further asserts that "cultural reproduction allows us to contemplate the necessity and complementarity of continuity" (p. 117), suggesting the replication of such experiences in person's later life. Hence, cultural practices can be understood as a "baggage of collective knowledge" (p. 13). Further, though people have the potential to freely act upon their experiences, they also tend to imitate experiences in a given culture (Richardson, 2001). This means that for some of my participants who have studied overseas (Faiha, Raufa, Meera, Zeena, Lamha, Yusra, Dhimna), their cultural givens were not necessarily changed. Instead their values of learning continued with their early experiences once they returned home to familiar, patterns of practices, beliefs, and expectations. Cultural reproduction sometimes continues with people even when later experiences might change some of their beliefs or practices.

This argument is strongly supported by the findings of many researchers who argue that individuals' cultures may influence their conceptualisation of pedagogy (Kukari, 2004; Wong, 2005). For example, Kukari (2004) reported that participants in his study had pre-understandings of what it means to teach and they were influenced by their own cultural practices in Papua New Guinea. Wong (2005) found that her participants from Hong Kong had some cultural influence of their spiritual value of music that was reflected in their teaching of music. However, neither Kukari nor Wong discussed specific cultural practices and their influence on their participants' conceptualisation of pedagogies. My research found that some teacher educators' practices were greatly influenced by the specific cultural practice of recitation of the *Qur'an* and the way it is learned and taught in the Maldives.

Shaina, for example, formed a cultural habitus through her early experiences of learning recitation of the *Qur'an* with her grandmother. Shaina's vignette (see Chapter Seven) suggests that when certain practices are culturally embodied they can become an unconscious aspect of individuals' lives. According to Bourdieu (1977), individuals generate habitus unconsciously, which then influence them to do things in a certain way. Shaina's understandings of learning (learning knowledge without making it meaningful) and the practices that she later formed (concentration on knowledge delivering) were influenced by the cultural practice of learning recitation of the *Qur'an* in the Maldives.

She valued her grandmother's teaching and her own ability to recite the *Qur'an* without understanding. She also believed that "the way *Qur'an* is taught is a very helpful way of learning" (FG). Bourdieu (1977) argues that "perceptions, appreciations and actions" (p.72) are associated with an individual's habitus. Shaina's case illustrates the formation of a cultural habitus through the influence of her learning recitation of the *Qur'an* without understanding as a child.

Shaina's view was not, however, fully representative. Others did not completely agree with the idea of the impact from this cultural practice on their pedagogical thinking. In order to clarify this, I later discussed it with teacher educators in focus group discussions, many of whom (Zeena, Faiha, Lamha, and Yusra) rejected the idea. However, the majority agreed that it could have *some* impact on the way they teach. For example, Haula, Meera, Shaina, and Alia thought that it *might* impact on their existing pedagogies. Participants valued how they learned the *Qur'an* though it has nothing to do with understanding and making meaning of what they learn. But, whether they recognised it or not, it may have influenced their views of how people learn. My participants have, whether they agreed with Shaina or not, formed certain dispositions about rote learning pedagogies.

The influence of culture on some participants can also be understood differently, for example, with Zeena, Faiha, Yusra, Nisha, Meera, and Lamha. These teacher educators gained their qualification overseas, unlike Shaina who had no experience of this. These participants, however, agreed that rote learning pedagogy is common practice, perhaps because it is a both familiar and routine method with the institution. Lamha and Yusra argued that learning the *Qur'an* compared with other subjects is very different and can depend on the purpose of these subjects. They argued that learning the recitation of the *Qur'an* is more about gaining *Thawabu* (blessing from God) hence that kind of learning does not apply to other subject areas. Data suggest that the practice of rote as a common strategy was influenced by the religious/spiritual value placed on recitation.

In addition, since all research participants are Muslims, certain dispositions of learning are embodied with their religious principles. These include the authoritative acceptance of received knowledge (Engineer, 1986; Sabki & Hardaker, 2012; Talbani, 1996). These researchers describe the traditional learning of religious subjects and learning of the *Qur'an* through rote learning and memorisation in the context of Arabic speaking communities, but not the Maldives. Learning to recite the *Qur'an* in these countries is likely to be different, as Arabic-speaking children are more likely to understand the meaning of what they read. The *Qur'an* is written in Arabic, but Arabic is not taught to

Maldivians regardless of its necessity in learning to recite the *Qur'an*. This is a significant point of difference. This recitation and rote learning of the *Qur'an* in the Maldives is not accompanied by understanding since Arabic is a foreign language. The implication is that learning to recite is received knowledge which is more important than understanding. This has ramifications for my research participants' pedagogical knowledge, practices and beliefs. Thus, it is crucial to understand whether what teacher educators have practised has any link with their Islamic principles of authoritative acceptance of received knowledge. I argue that this cultural practice has at least a partial influence on their forming of certain beliefs about learning and teaching in the Maldives.

My research makes connections between this learning practice of recitation of the *Qur'an* and participants' later formed pedagogies because those teacher educators in terms of their pedagogy, concentrate on teaching content knowledge without necessarily attempting to make it meaningful for the learners. The literature clearly supports this claim (Faiz, 2007; Mariya, 2012; Mohamed, 2006; Nazeer, 2006; Shareef, 2010). These researchers claim that rote learning pedagogy is pursued because it suits the classroom practices in the Maldives. This specific cultural practice of concentrating on content knowledge has affected teacher educators' own view of learning, and their perceptions of their students' learning, hence their approach to pedagogical content knowledge.

Influence of Teacher Educators' Early Learning Experiences

The data explored through initial and follow-up interviews, and focus groups provided in-depth understanding of participants' early learning experiences. These experiences were reported in the findings. These included accepting the knowledge as transmitted by teachers, note-taking, and examination-oriented teaching. Teacher educators' early learning experiences have influenced the shape of their later pedagogical practices as well as how they used digital technologies; for example, Alia, Meera and Haula who repeatedly explained their classroom experiences were rote learning. The literature suggests that individuals' early learning and thinking forms certain beliefs about pedagogy, hence their conceptualisation of pedagogical practices (Brand & Glasson, 2004; Dixon & Senior, 2011; Kisiel, 2013; Randi & Corno, 2007). Though these researchers' arguments relate to the conception of pre-service teachers and teachers' pedagogy, their findings support the strong impact of individuals' early learning experiences on teacher educators' pedagogies. These examples demonstrated that some teacher educators' existing pedagogies, to a certain degree, illustrate what Bourdieu (1977) meant when he discussed the notion of habitus in people. In essence, they are dispositions of 'teaching as they were taught'.

In addition, regardless of some teacher educators (Faiha, Meera, and Nisha) being educated overseas (USA, UK, New Zealand, and Australia) their conceptualisation of pedagogy was much more influenced by their Maldivian culture and their own learning experiences. More specifically, Meera and Nisha (relatively young) may have observed interactive pedagogies in their higher education in New Zealand or Australia but their pedagogy was still influenced by the rote learning pedagogy they experienced in their own schooling. These examples identify a strong connection between teacher educators' early learning of schooling and the pedagogies shaped later. Bourdieu (1977) states that individuals pursue roles and models unconsciously in their future actions. For these teacher educators, it was demonstrated in their teaching. The teacher educators' practice has been heavily influenced by their own learning experiences, unconsciously embodied, and later replicated in their teacher education pedagogical practices. The advent of technologies in their pedagogical practice highlights this. It reinforces Bourdieu's (1977) strong emphasis on an individual's habitus as generated through an interconnected network of past and present experiences, where teacher educators' past experiences of rote learning are now mirrored in their later formed pedagogies.

Research Question 2

How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?

This question involved understanding the influence of teacher educators' institutional context on their formed technological and pedagogical practice. To answer this question, I selected important themes including the influence of pedagogical context and the technological context of teacher educators' workplace (refer Chapter Six). Each of these themes is discussed in turn.

Influence of the Pedagogical Context

The findings demonstrated that teacher educators' shaping of pedagogy was influenced by their context of practice in the Maldives. Some of these influences were associated by the nature of students they teach, the nature of the examination-oriented system where they work, and the nature of content-heavy modules they teach. The context of practice plays a vital role in the forming of certain routines and pedagogical practices among teacher educators, and is confirmed by Faiha, Zeena, Nisha, Raufa, and Haula. Some of these participants, Nisha and Haula for example, had tried interactive pedagogies in their earlier teaching. However, they did not realise much success in student learning when trying those approaches because students expected rote learning. Powerful habitus forces

are at work. As discussed in the context chapter, Maldivian students prefer teachers to deliver knowledge, rather than constructing knowledge on their own. In other words, they prefer knowledge to be given or delivered by experts, so that they do not need to do much thinking for constructing knowledge. The entire concentration in the learning process therefore, is on content for examinations (Liyanage, 2012; Mohamed, 2006; Shareef, 2008).

Barton and Berchini (2013) confirm that a context is a place where teachers often shape their practice depending on its history, culture, geography and politics. This means that when teaching is done in specific contexts, the nature of students, the history of the context, and religious values could be considered as part of their pedagogical practice. My finding also confirmed this understanding as many teacher educators often mentioned that activities-oriented learning does not work in the way they expect. This idea of shaping teacher educators' pedagogical practice also aligns with Bishop's (2003) view of teaching and learning as a culturally determined practice. Bishop's idea of responsive pedagogy is likely to be more relevant when teachers and students belong to different cultures. However, though teacher educators are teaching students who share the same culture, they might find it difficult to apply the educational ideas that they discovered in their overseas education. This means that teachers may alter their pedagogy to fit their students as suggested by Dewey (1934). Loughran and Northfield (1996) suggest that often teachers bring many changes to the way they teach depending on situations, students' nature, and everyday unexpected scenarios. It is reasonable to think that many Maldivian teacher educators may have formed their habitus through their negotiation of both students' expectations and the system of education.

For example, some teacher educators articulated the influence of their examination-oriented system. They believe that students' learning in the Maldives is measured by the scores they achieve; hence students' high exam-scores reflect the quality of good practice in teaching. Faiha and Zeena admitted, for example, to an examination-oriented pedagogy. Teachers' pedagogical thinking is shaped through situational adjustments linked with the context of practice and the nature of students (Achinstein & Barrett, 2004; Etheridge, 1989; Kansanen et al., 2000). These researchers suggest that teachers modify their teaching approaches or abandon their learned pedagogical knowledge in order suit the pedagogical context in their classrooms.

In addition, some teacher educators, Nisha and Raufa, said that their rote learning shaped pedagogy is also driven by the nature of modules they teach, because they are mindful of covering the content in a limited time. Thus, often they choose the rote learning pedagogy

in order to help students to learn better in a given time. Cheng et al. (2010) argue that teacher-centred pedagogy often is chosen because of the time constraints and the amount of content they needed to cover. It could be argued that teacher educators' concerns regarding their pedagogical thinking or the approaches that work for their context are valid for their workplace.

The trend of teacher-centric teaching and examination-oriented practice established in an institution may be understood as a "logic of practice" (Bourdieu, 1990b, p. 30) institutionalised in a workplace. Teachers who enter the profession follow an established system and routines. According to Bourdieu (1990b), the concept "logic of practice" largely relates to the social reality of individuals' practice formed in the work environment. When evaluating the logic of practice in teacher educators' workplace, I learned that senior teacher educators had stronger beliefs about content teaching than the ones who joined the institution later. For example, Haula, Alia, Meera, Nisha, and Dhimna, joined the teacher education institution later than other participants. They formed their teacher education pedagogical practice through observing their colleagues' teaching. Senior teacher educators such as Faiha, Lamha, Zeena, Raufa, and Shaina had much stronger dispositions about content teaching. Thus, recent teacher educators also may practise an examination-oriented pedagogy because it is an expected practice at their workplace. Naidoo (2004) suggests that teachers in a workplace may form certain pedagogies relying on institutionalised agendas. The institutional agenda could be understood as the assessment policies and the nature of content-heavy modules that teacher educators were expected to teach. The influence of institutionalised pedagogical context can be clearly understood when examining Nisha's case.

Nisha appears to have shaped her pedagogical practice through her teaching of content-heavy modules, thus meeting her students' expectation of content delivery, rather than developing critical thinking and independence as learners. This mimics the kind of learning she experienced as a child, when reciting the *Qur'an*. This demonstrates the creation of a habitus formed through repetition and connection to values associated with it. When such practices are enacted in teacher education by a number of people, these content-heavy delivery practices become embedded as an institutional habitus. They also link to examination-oriented systems, where recall and replication of ideas become valued. This becomes deeply enculturated into everyone who is part of such an institution, whether staff or students. The findings also underline these deeply embedded pedagogical practices already underway in this institution. These influences drove teacher educators form a habit of always explaining the content important for students'

examinations. The findings show that institutional pedagogical context can be a contributor to teacher educators' pedagogical habitus.

Influence of the Technological Context

In my research, the technological context refers to the available technological facilities and the quality of support provided for teacher educators. The technology infrastructure and the quality of its facilities play an important role in teacher educators' use of technologies. Research focusing on technology integration into teachers' pedagogical practice acknowledges that a technological infrastructure and related support services are factors that influence teachers' use of technologies (Ertmer, 1999; Hew & Brush, 2007; Inan & Lowther, 2010). Together, however, their findings provide limited knowledge about how teacher educators' use of available facilities links to the formation of specific pedagogical habitus. Participant teacher educators' pedagogy and their use of digital technologies were clearly influenced by the quality of available facilities. The previously mentioned studies investigated barriers or impeding factors. My study is about how teacher educators selected and used specific digital technologies in relation to the exercise of their pedagogical habitus.

My study's findings showed that teacher educators experienced difficulties because of unreliable Internet facilities. Due to this unreliability, they usually avoided using it during their teaching (particularly, Yusra, Dhimna, Zeena, and Faiha), saying it was too "time consuming" and "it [the Internet] doesn't work properly". Yusra, for example, used several YouTube clips in her teaching but they were downloaded ahead of her contact hour, because she could not rely on the Internet in her classroom. More examples of the same difficulty were observed in Faiha and Haula's classroom teaching. They both tried to use the Internet while teaching but had many difficulties when browsing websites due to its slow speed. As a result, participants went with what was habitually easy. This means they scarcely use the Internet during their teaching.

More examples of participants avoiding difficulties were indicated from their use of virtual spaces (Moodle, GEM, and Self-Service) and database (Ebsco, Eric, and ProQuest), which meant they scarcely used. Yusra, Shaina, Raufa and Nisha avoided using these tools because they found their use unreasonably time-consuming. Lamha, for example, avoided using academic research databases, such as Ebsco, Eric, and ProQuest because of difficulties related to both the Internet speed and the operating networking system. Instead, she opted for Google to search for materials prior to the classroom teaching. Perhaps this shows that she is not confident in using the library databases or found them unreliable. It was, therefore, difficult for them to model effective academic

research practices for their students, still further reducing their likelihood of developing critical thinking and independent learning.

In addition, Dhimna, Haula, Zeena, Nisha, Faiha, Yusra, and Lamha (seven out of eleven) complained about not getting enough technical support when necessary. This is particularly related to teacher educators' classroom teaching situations such as when they had difficulties due to virus scanning and inappropriate programming. Mostly, these issues were generated because equipment was not properly monitored and updated. As a result, these teacher educators selected the least problematic facilities so to avoid issues. This means instead of using various technological faculties such as websites, video clips, and other online tools, they resorted to PowerPoint as the default for their teaching. This also meant they could continue to deliver content.

The literature draws attention to such as hindering factors in teachers' uptake of available technologies in their workplace. The literature is clear on this. Technical difficulties can become barriers regardless of teachers' interest and familiarity with using technologies (Bauer & Kenton, 2005; Cuban et al., 2001). Cuban et al. (2001)argue that unattended technical difficulties in the workplace lead to unsuccessful implementation of technologies in pedagogical practice and this idea links to Bourdieu's (1993) argument that individuals form dispositions within a field depending on their struggles and experiences. In the case of these teacher educators, since they experienced various difficulties when experimenting with tools such as Moodle, GEM or Self-service, they avoided using them if they could, instead opting for easy-to-use facilities that fitted with the content orientation of their teaching. This meant they were more likely to avoid digital tasks that required students to engage in critical evaluation and adaptive help-seeking practices. Faiha, Zeena, Nisha, and Raufa, for example, explained they used Dropbox because it was a tool freely available to use without much difficulty. It made it very easy to share content (hand-outs) with students.

Emirbayer and Johnson (2008) argue that habitus is generated through everyday activities and interactions in an institution. Researchers acknowledged that when teachers realise benefits or receive positive experiences when using technologies, they are more likely to adopt them in their practices (Howard, 2013; Sprankle, 2012). Bourdieu (1985) explains that individuals have a tendency to make sense of what to accept, what to leave, and what to choose in terms of their experiences and this is illustrated in the habits or practices of my participants. Individuals' desires, interest, and motivation also play an important role when generating habitus (Lovell, 2000; Schmidt, 1997).

Research Question 3

How do teacher educators form their pedagogical and technological practice?

This is associated with examining teacher educators' pedagogical (content-oriented) and technological (PowerPoint-assisted) practices as influenced by their cultural and institutional context.

Content-oriented and PowerPoint-assisted practice

Content-oriented and PowerPoint-assisted delivery was prevalent in teacher educators' practice centred on explaining content knowledge. The comments by all (eleven) participant teacher educators confirms this as a habitual pedagogical practice.

Although teacher educators adopted PowerPoint in their teaching, it did not bring much change to the way they taught. A number of researchers widely discuss the possible changes that teachers need to bring in terms of providing opportunities for students' use of technologies (Cox, 2013; Lim & Oakley, 2013; Qiyun & Huay Lit, 2007; Wright, 2010, 2012, 2014). With the advent of technological tools in the teacher educators' workplace, they found PowerPoint useful for their teaching because of its relevance to their pedagogical orientation as demonstrated in six participants' (Faiha, Haula, Shaina, Meera, Nisha, and Yusra) classroom teaching. In these classrooms, PowerPoint was noted as an object that replaced such earlier technology as the whiteboard. What this means is, that instead of teacher educators using the whiteboard, they replaced it with PowerPoint to explain the content of the lesson.

Teacher educators' keenness for using PowerPoint was not only observed inside their classrooms, but also in their workstations as highlighted in my field journal entries. These entries had various examples of how much time they spent for creating and preparing their PowerPoint presentations. Teacher educators' use of PowerPoint tying with their traditional teaching was supported by other researchers (Adams, 2012; Bang & Luft, 2013; Fisher, 2003; Jones, 2003). This means that teacher educators' use of PowerPoint and their habits could be similar to a certain degree to what these researchers discussed in their studies. However, the purpose and the pedagogical orientations of teachers in their studies were different. In my participants' practices, it seemed that their pedagogical orientations were very much influenced by the embodied rote learning practices in their culture, particularly the learning to recite the *Qur'an* and their own schooling experiences.

While I examined how teacher educators used PowerPoint as a sufficient technological tool, some concerns were raised regarding the way it is implemented. For example, five teacher educators (Nisha, Faiha, Meera, Yusra and Haula) frequently mentioned that they use PowerPoint for creating interactive learning environments for their students. The meaning of this interactive learning showed a distinct difference between what I understood through their interviews and what I observed in their classroom teaching. Some researchers drew attention to this idea of pedagogy being different from what is articulated about integrating technology in teaching (Ertmer, 2005; Judson, 2006). Both Ertmer and Judson argue that teachers say they integrate technological tools for creating better learning and helping students' higher order thinking. However, much of what they found in the context of practice is using technology for drill and practice. A more recently, Bang and Luft (2013) recognised that participants in their study simply married technology [PowerPoint] with their traditional teaching methods. More specifically, the use of PowerPoint in many teachers educators' pedagogical practices created a passive rote learning classroom where their roles were more on narration of the contents covered in slides. How such practice negatively impacts on student learning and pedagogical practice is broadly discussed by Adams (2012), which creates student passivity in the learning process. This is similar to my observations in teacher educators' classroom teaching: students relied completely on their teachers' explanation without necessarily trying to generate their own ideas. The observation of classroom teaching noted that students were given opportunities to "answer questions", "discuss points", and "interact with each other". However, when I critically looked at the pedagogical purposes of these activities, I found that they did not necessarily enhance student learning. The purpose of the activities was merely 'content-oriented discussions' in which students routinely rehearsed the content knowledge explained. This was a reflection of teacher educators' early experiences as discussed earlier.

Both early and recent literature draws attention to the complexity of realising a pedagogical change when technology becomes part of early established pedagogy (Adams, 2011; Bang & Luft, 2013; Cuban et al., 2001; Koehler & Mishra, 2008; Kurt, 2013; Lim & Oakley, 2013; Perkins, 2012; Sipilä, 2010). In other words, teacher educators married their technology use with their traditional pedagogy without much thinking about how these technologies would be useful for their students' learning and constructing knowledge.

Teacher educators' adoption of PowerPoint for teaching content was also influenced by the benefits they gained through using it. Teacher educators' habitus of using PowerPoint could be understood through a generative structure which emerged from their deliberate

and conscious intentions, as suggested by Bourdieu and Wacquant (1992). It could also be explained through the sense of the game (Lamaison & Bourdieu, 1986). As teacher educators realised various benefits of its uses, eventually, they formed the habit of using it as a teaching aid for assisting their pedagogical practice. However, depending on their own experiences, when deciding what to accept and what to leave, some may also form different habitus as part of avoiding difficulties. Yusra's case for example, was of someone who had background of using various tools (online forums and virtual spaces) in her own learning could be understood differently from other teacher educators. Another example of a similar scenario could be applied to Nisha who had learning experiences through various technologies during her overseas education, yet, she also remained using PowerPoint because of its relevance to how she wanted to teach.

Though these teacher educators formed content-oriented pedagogical practice using PowerPoint, it could have been changed if the professional development at their workplace was properly designed for enhancing their use of technologies. Five teacher educators (Nisha, Shaina, Zeena, Faiha, and Meera) raised their concerns regarding the way professional learning was designed for them. According to them, professional development was designed as "one-off sessions", "no connection between sessions", "not focused on pedagogy", and was "merely introduction of tools". Due to this inadequacy, the professional development did not help teacher educators develop their understanding of relationships between what they teach (content), how they teach (pedagogy) and what they use (technology) for teaching, as argued by Mishra and Koehler (2006).

A number of researchers also argue that professional learning should be designed as on-going (Guskey, 2003), based on reflective thinking (Greene, 2001), enabling teachers to be actively involved (Darling-Hammond et al., 2009; Guskey, 1999) in context-focused activities, which are also factors related to teachers' pedagogical practices (Timperley et al., 2007; Van Driel & Berry, 2012). These researchers argue that PD ought to be successful in bringing a change into teachers' practice. In the case of the teacher educators' workplace, the professional learning designed for them failed to bring a change to their practices. Therefore, they remained using what is mostly available and convenient for them to deliver content. I argue that the change to pedagogy in teacher educators' was not realised because of two major factors. One factor is the deeply ingrained principles of their embodied rote learning pedagogy. The other is the inadequate professional learning in their workplace. Both these factors may lead teacher educators to continue their pedagogical practices without realising the need for a change. Specifically, teacher educators as educators who teach about teaching may need to consider more carefully the example and practice they transfer to student teachers who

are to be prospective teachers in schools. Literature on teacher education pedagogy widely discusses the notion of inquiry-based pedagogy, reflective practice, self-study, active involvement in evaluating their approaches to pedagogies (Goodwin et al., 2014; Kosnik, 2007; Loughran, 2004, 2006, 2007, 2010a, 2011, 2014; Mason, 2002). These views clearly indicate that teacher educators' professional practice should include modelling, reflective and inquiry processes, focusing on enhancing and bringing a change to their pedagogies.

The influences from the Maldivian culture, teacher educators' backgrounds and their institutional context generated pedagogical and technological cultural habitus in their practice.

Forming of Pedagogical and Technological Cultural Habitus (PATCH)

When examining teacher educators' practices, I identified three important aspects associated with shaping specific practices in the Maldives (Figure 7.1). Each of these aspects is discussed with examples from participants' data. Teacher educators' formed habitus is associated with their culture and institutional context. Teacher educators' cultural habitus comprises their **cultural practices** and **early learning experiences**. In Figure 7.1, the top of the funnel locates these two elements.

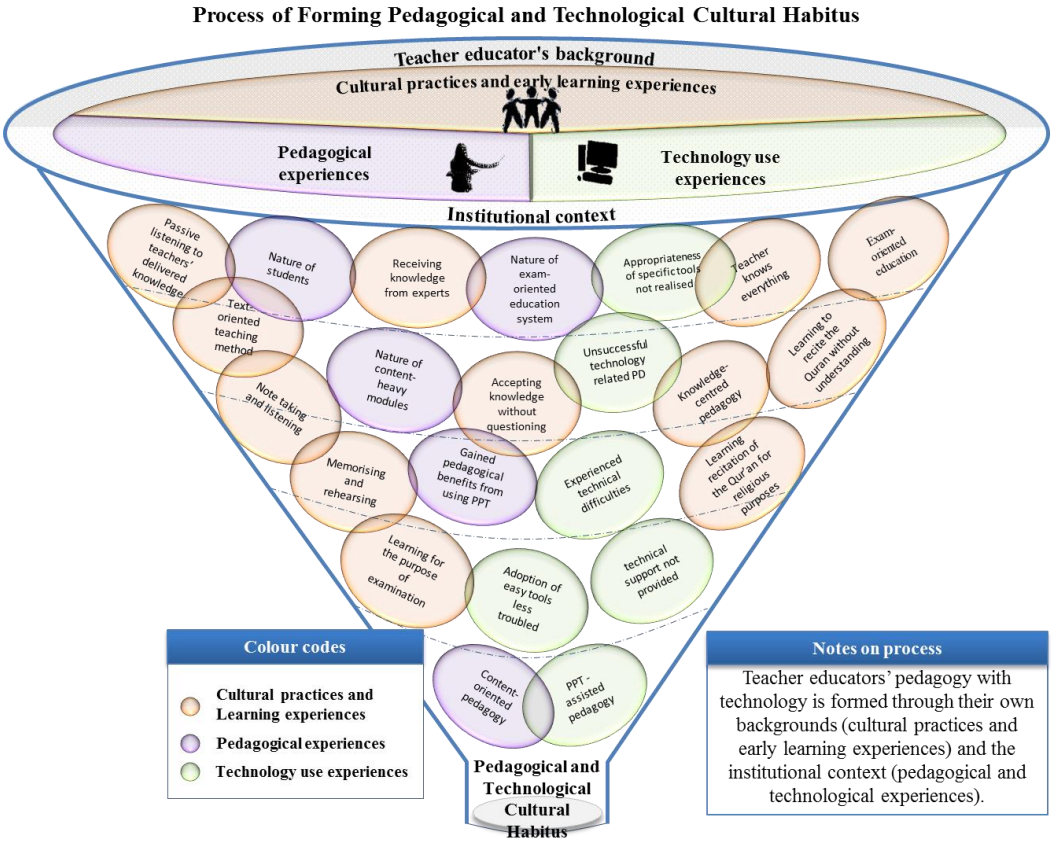


Figure 7. 1. **Process of forming pedagogical and technological cultural habitus**

The culture of the Maldives encompasses several cultural elements that played an important role in teacher educators' formed habitus. In this culture:

- teachers are viewed as experts of knowledge;
- pedagogies are centred on knowledge delivery;
- the system of education is examination-oriented in schools;
- recitation of the *Qur'an* is learned without understanding; and
- recitation of the *Qur'an* is learned for the purpose of religious practices not understanding the meaning of transcripts.

These are reflected in the content of the funnel (orange coloured-circles) in Figure 7.1. Shaina, Alia, Meera, and Haula specifically explained that the cultural practice of learning recitation of the *Qur'an* without understanding influenced their rote learning pedagogy and view of knowledge as fixed and given by someone (experts or teachers). Understanding meaning or creating knowledge (learner constructs knowledge) is not emphasised in this practice. This unconscious deep-seated view of knowledge links to the formation of habits of delivering ready-made content knowledge, rather than providing opportunities for their students to create knowledge. Knowledge is understood as something to be stored in students' minds in the same way they could fill an 'empty container' (Felman, 1987). In other words, teacher educators' views of knowledge and learning can be traced to this early set of experiences related to their learning to recite the *Qur'an*.

Four teacher educators (Shaina, Nisha, Alia, and Meera) describe their early **learning schooling experiences** in which they rehearsed, memorised, took notes, and accepted knowledge given by teachers without questioning in their early schooling (orange coloured-circles) in Figure 7.1. This means the value given to rehearsing without understanding, or rote learning experiences, was strengthened through their school learning experiences, where their teachers filled their minds with content knowledge during their schooling. The storing process of 'filling the minds' (Gilbert, 2005), took place through memorising or rehearsing for their examinations. This represents a powerful unconscious force in teacher educators' pedagogical practices. Reay (1997), who adopts a habitus lens, recognised that individuals' past experiences can structure their present practices which more or less influences the shaping of habitus. Kansanen et al. (2000) suggest that early conceptualised meanings of teaching can be closely related to teachers' views of pedagogical practices observed in their own learning. Brand and Glasson (2004) argue that cultural norms of people's home countries influence their understanding of pedagogy.

Through this generated force (cultural capital), teacher educators developed their pedagogical understanding. Bourdieu (1986) suggests that cultural capital can be represented in a form of *embodied* state (dispositions) that can be long-lasting. Bourdieu further claims that cultural capital can be acquired in various contexts depending on what individuals' experiences were like in a period of time. In the same vein, Bourdieu (1986) argues that cultural capital also can be *institutionalised* (culture) within a system of education, including the Maldives. The underpinning philosophy of the centrality of knowledge is thus ingrained in their habitus through being repeatedly reinforced in their experiences. This view is supported by data. For example, Shaina and Nisha thought that teaching is about achieving objectives and that these objectives would be achieved once students learned the right answers.

Figure 7.1 illustrates that teacher educators' **institutional context** through both their pedagogical and technological experiences allowed them to continue with content knowledge-centric teaching. As discussed earlier, five out of eleven teacher educators (Faiha, Zeena, Nisha, Raufa, and Haula) explained the influence of **pedagogical experiences** such as teaching content-heavy modules, their students' expectation towards teachers' roles as experts, and their focus on examination (purple coloured-circles) in Figure 8.1. Six of the teacher educators (Faiha, Haula, Meera, Nisha, and Shaina, Raufa) frequently mentioned that they 'try to explain content knowledge' and 'achieve objectives of the lesson' (confirming students' learning of content). More specifically, Nisha, Shaina, Yusra, Faiha, and Meera's classroom teaching demonstrated the rehearsal of content knowledge, repeatedly asking questions about the content and correcting students' answers (Nisha), showing the right answers (Faiha), rehearsing knowledge (Yusra), and concentrating on definitions and rehearsing them (Shaina and Meera). These examples clearly explain what is being reflected from their own schooling, strongly suggesting the habitus of delivering ready-made content knowledge and expecting parroted responses. This mirrors, and echoes how they learned the recitation of the *Qur'an*. This means that teacher educators' early experiences were being reproduced unconsciously in their present practices. Bourdieu's view (1977) view about education as reproduction helps explain this phenomenon.

When teacher educators started using digital technologies at their workplace, their teaching did not alter much; instead, technological facilities available were merely used as a vehicle for delivering content knowledge to their students more easily than before. This unconscious value of knowledge was mirrored in their **use of technologies**. These teacher educators tended to select tools that fitted their pedagogical orientation of content delivery and ease of use, given the issues with reliability of the Internet, infrastructure,

and technical difficulties (green coloured-circles) in Figure 7.1 (see also comments by Faiha, Yusra, Zeena, Dhimna- Influence of the technological context - Chapter Six). Each of the aspects mentioned in the funnel generated a specific types of habitus in teacher educators' practice as discussed below.

Conceptualisation of PATCH Framework

Some of the limitations I found in the technology and pedagogical research literature are the gaps in making connections between teachers' pedagogical practices, their use of technologies, and their cultures. The literature instead commented on teachers' fluency in using technologies educationally without looking at their backgrounds. My argument is that without understanding teachers' reasons for using specific technologies in their pedagogies, it is difficult to understand what motivates them to make their pedagogical decisions. In the case of the Maldives, I was unable to explain what happens in teacher educators' use of technologies without considering their social and professional backgrounds (Figure 7.1). Through my findings, I discovered that the teacher educators' habitus in using technology was closely linked with both their backgrounds and their institutional context. The 'mouth of the funnel' (Figure 7.1), demonstrates the start of my theorisation. Imagine being in a helicopter above the top of the funnel, to gain an overview of all the aspects involved in teacher educators' formed practices. A satellite view of the aspects involved in this process, become Figure 7.2. Figure 7.3 is the main conceptualisation of PATCH.

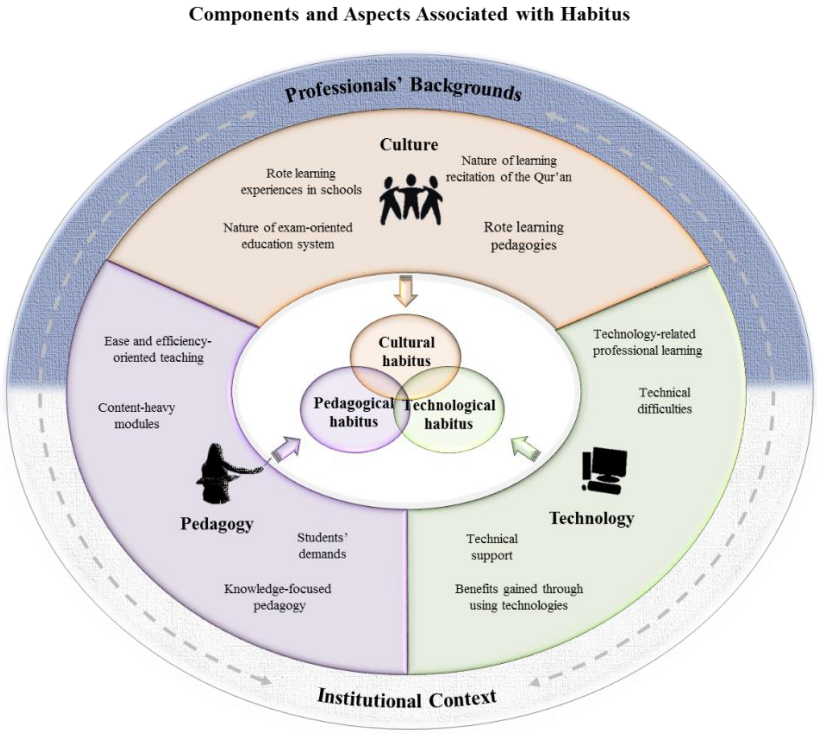


Figure 7. 2. **Components and aspects associated with PATCH**

This diagram (Figure 7.2) illustrates two main components. The first component is professionals' background which recognises teacher educators' culture (Maldivian cultural norms related to the recitation of the *Qur'an* and their rote learning school experiences). The second component (institutional context) identifies two aspects: pedagogy (teaching habits practices and pedagogical thinking); and technology (technology use in teaching). These three aspects are implicated as teacher educators formed their habitus types and emphases (pedagogical, technological and cultural).

Interpretation of my data revealed that these aspects are relevant when understanding teacher educators' pedagogical practices with technologies because of the influence of Maldivian social cultural norms coupled with the institutional context and its established practice. Teacher educators' own backgrounds and pedagogical experiences influence their way of using technology. For example, teacher educators have chosen specific tools to help them teach content. This focus on teaching content has been influenced by deep-seated social and cultural learning norms in the Maldivian culture. If I ignore their culture and backgrounds, I would be unable to understand why their existing practices remained intact when they taught with technologies. Thus, my participant teacher educators' reasons for adopting specific tools and approaches to teach would be misinterpreted. Using digital technologies were generated through their own early learning experiences and modified by teaching in the institutional context. These are symbolic spaces, representing specific types of habitus (Figure 7.2). These types of habitus are summarised in Table 7.1 with examples from my findings.

Table 7. 1.Types of habitus

Habitus	Represented in	Examples
Cultural	- Teacher educators' upbringing and dispositions, - recitation of the *Qur'an* valued as learning though it is learnt without understanding its meaning; and - rote learning classroom experiences such as note-taking and examination-oriented learning.	Shaina's vignette demonstrates cultural practices related to learning recitation of the *Qur'an*.
Pedagogical	- Teacher educators' everyday teaching routines; - negotiated pedagogical practices within their context of teaching; - teaching of content-heavy modules; - meeting their students' demands; and - teaching within an examination-oriented pedagogical context.	Examples of teacher educators' shaped practices are provided in the vignettes of Shaina, Nisha, and Yusra. Each of these demonstrates the influence of their pedagogical habitus on their shaped technological and pedagogical habitus.

Habitus	Represented in	Examples
Technological	- Teacher educators' use of digital technologies; - benefits gained; and - challenges encountered in their workplace.	Yusra's vignette provides an example of how her technological habitus could be understood. Findings shared about teacher educators' formed PowerPoint assisted pedagogy demonstrate more examples of this habitus.

Table 8.1 illustrates the formation of different habitus through teacher educators' lived experiences associated with cultural, pedagogical, and technological elements and thinking. In order to represent these aspects, I conceptualised a framework for understanding teacher educators' use of digital technologies in their pedagogical practices. This is explained in the following section.

Framework of PATCH

Conceptualising pedagogical practice with technology is a complex process, as argued by Koehler et al. (2007). However, teachers' use of technologies associated with specific pedagogical thinking related to their culture is even more complicated. Focusing only on how appropriately or fluently teachers use technologies is not helpful for understanding how technology is used pedagogically in specific cultures such as the Maldives. The literature discussed in Chapter Three raised critical arguments about the changes to student learning and teachers' roles that researchers anticipated, though little change has been seen in many pedagogical contexts over three decades (Ertmer, 2005; Kurt, 2013; Perkins, 2012; Scott et al., 1994; Sipilä, 2010; Zisow, 2000). The findings in regard to Maldivian teacher educators' use of technologies in their pedagogical practices leads me to conclude that there are specific types of habitus involved in participants' practices. The data yield three types of habitus associated with their past and present lived experiences, as outlined in Chapter Seven.

The framework of PATCH provides an explanation beyond an understanding of what teachers do with technologies to teach and what these technologies are for. The PATCH framework (Figure 7.3) shows the relationships between specific habitus and the shaping of an overall habitus. In Figure 7.3, the three types of habitus (circles) represent the different influences on teacher educators' lived experiences as discussed earlier. The arrows and the dotted circle represent the interconnections between these types of habitus. Although the three types of habitus are drawn in equal sizes in a circular pattern, they are

better understood as a murky and messy process in terms of how each of them affects the overall habitus for each individual. The double-ended arrows between these habitus types indicate their interconnectedness. The arrows also explain the degree of connection between habitus types. The habitus demonstrates a strong influence when all three types of habitus overlap each other. When they are separate, the degree of influence is lessened, but never severed. As I examined my data, I discovered that these three types of habitus cannot be completely disconnected. Each of these types of habitus influenced individual teacher educators' pedagogical and technological practice in different degrees. In order to understand this idea through the PATCH framework, I examined three cases from my findings.

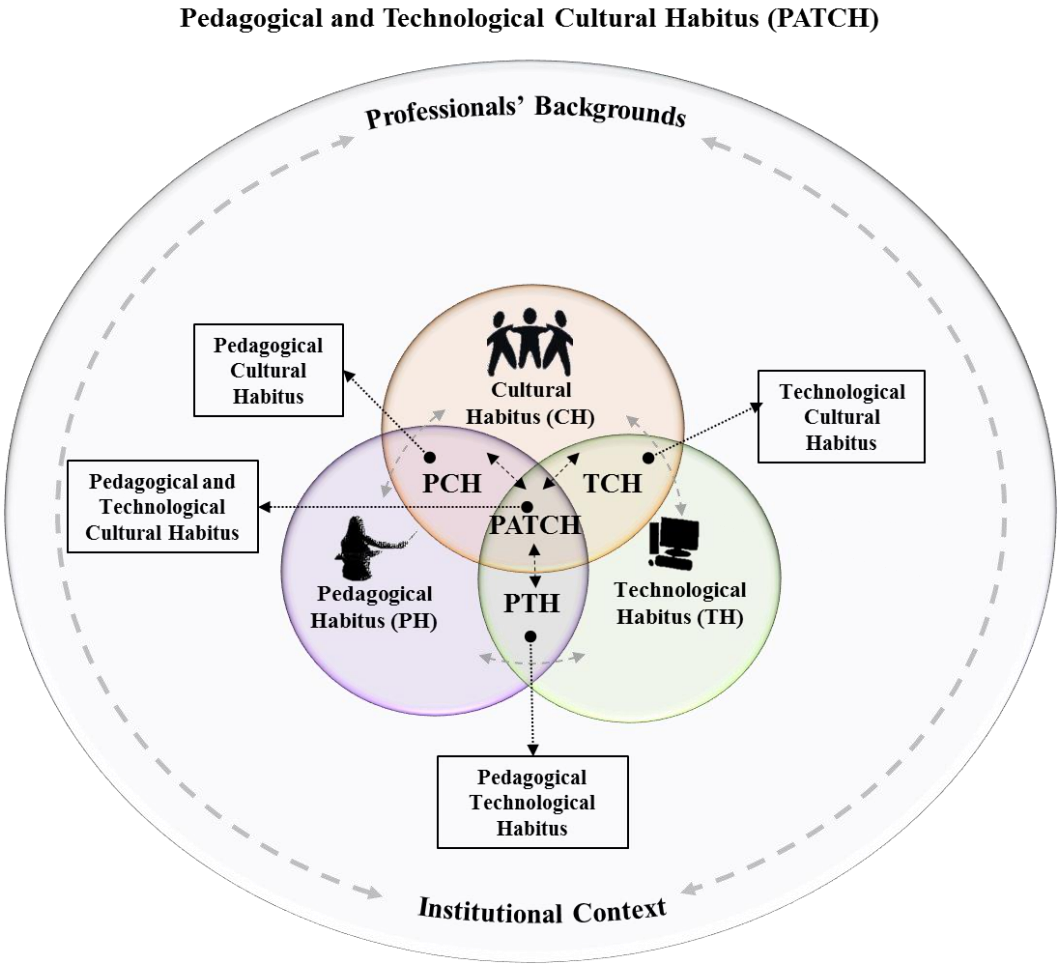


Figure 7. 3. **Pedagogical and Technological Cultural Habitus (PATCH)**

Example 1: Shaina's case

The first example is Shaina's case. Shaina's cultural habitus represented the strongest impact on her shaping of PATCH as seen in Figure 7.4. It shows that the cultural practice related to learning recitation of the *Qur'an* in the Maldives and her early learning experiences influenced the formation of a dominant cultural habitus for Shaina. Specifically, this was because she valued highly her grandmother's teaching and the

teaching of the *Qur'an*. This cultural habitus became dominant in her later practice when she became a teacher educator. Although the other two types of habitus influenced the formation of her overall PATCH, the degree of influence from the other habitus seemed less significant. I was able to grasp this understanding while synthesising the elements of Shaina's journey.

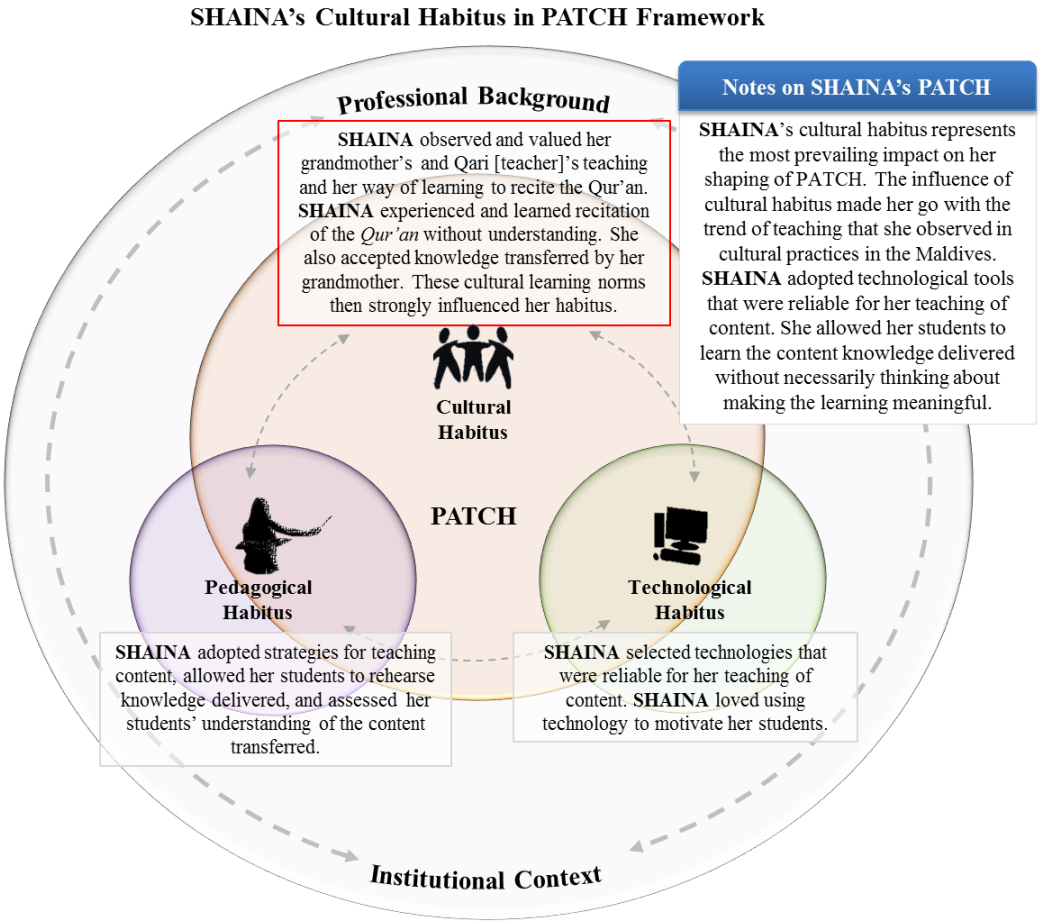


Figure 7. 4. **Shaina's cultural habitus**

Analysis of data from various sources (interview, observation, focus group, hanging out with her, and follow-up interview) demonstrated her appreciation of this cultural practice and the value she has given to this way of learning. For example, from the initial interview, Shaina narrated how much she valued her grandmother's teaching, and in focus groups, she again discussed this, appreciating the spiritual value of that learning. She supported the way *Qur'an* is taught in the Maldives. Shaina further strengthened the validity of this finding as she repeatedly discussed the values of this rote learning in her follow-up interview (the last phase of data collection). Though she loved using technologies to motivate her students and make her teaching easy, her pedagogical strategies were based on the cultural practice associated with the rote learning of recitation of the *Qur'an*. As demonstrated in her vignette, her actual pedagogical practice clearly centres on teaching for delivering knowledge, not for creating understanding.

Example 2: Nisha's case

The second example is Nisha's case as shown in Figure 7.5. Similar to Shaina, Nisha had the same influence of cultural practice in her learning recitation of the *Qur'an* coupled with her rote learning experiences in schools. However, her pedagogical habitus seemed dominant in her journey of forming overall PATCH (Figure 7.5).

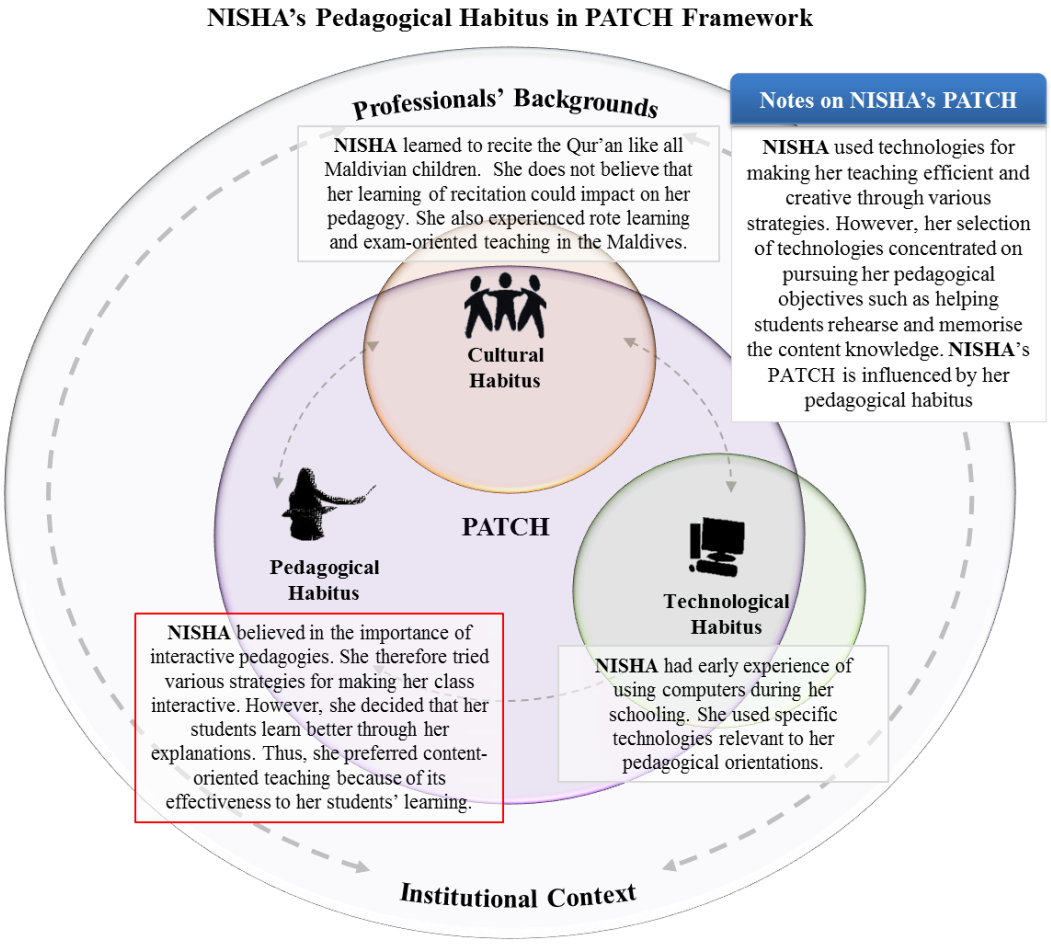


Figure 7. 5. **Nisha's pedagogical habitus**

As she studied overseas (the USA, and Australia), Nisha had learning experiences through various technologies during that education. When she returned to the Maldives, she tried to implement what she learned in her early career of teaching. However, her pedagogical experiences made her decide that her expectations of student learning were not met. According to her, neither her students' expectations of her role as a teacher were satisfied nor were her expectations of her students' learning met when she taught through interactive strategies. Nisha found that her students did not learn much when they were given activities designed to construct their own understanding. Nisha's objectives for her lesson would only be achieved when her students memorised the right answers for every single question she asked. For her, the meaning of learning was defined as the storing of knowledge in her students' minds. So, content as inviolable fact was what knowledge

means for her. Nisha was influenced by the cultural practice of learning recitation of the *Qur'an* without understanding. As noted in her vignette, she did not focus much on the learning process or students' experiences of learning during her teaching. In other words, her pedagogical practice was centred on students receiving and memorising the content she taught. Therefore, the focus of her pedagogy was delivering content. The role of her students was to store the delivered knowledge. Moreover, her pedagogical habitus was also influenced by the context of practice in terms of teaching content-heavy modules. Cultural influences also proved too strong for theories learned elsewhere in her teaching.

Example 3: Yusra's case

The third example of PATCH can be illustrated through Yusra's case (Figure 7.6). She had the same cultural learning experience as her colleagues of recitation of the *Qur'an* and rote learning experiences at an early age. However, Yusra's overseas undergraduate study allowed her to observe and experience interactive learning. She also experienced learning using various virtual spaces during her postgraduate studies. These experiences influenced her overall habitus, but the most influential habitus on her overall PATCH is the technological habitus.

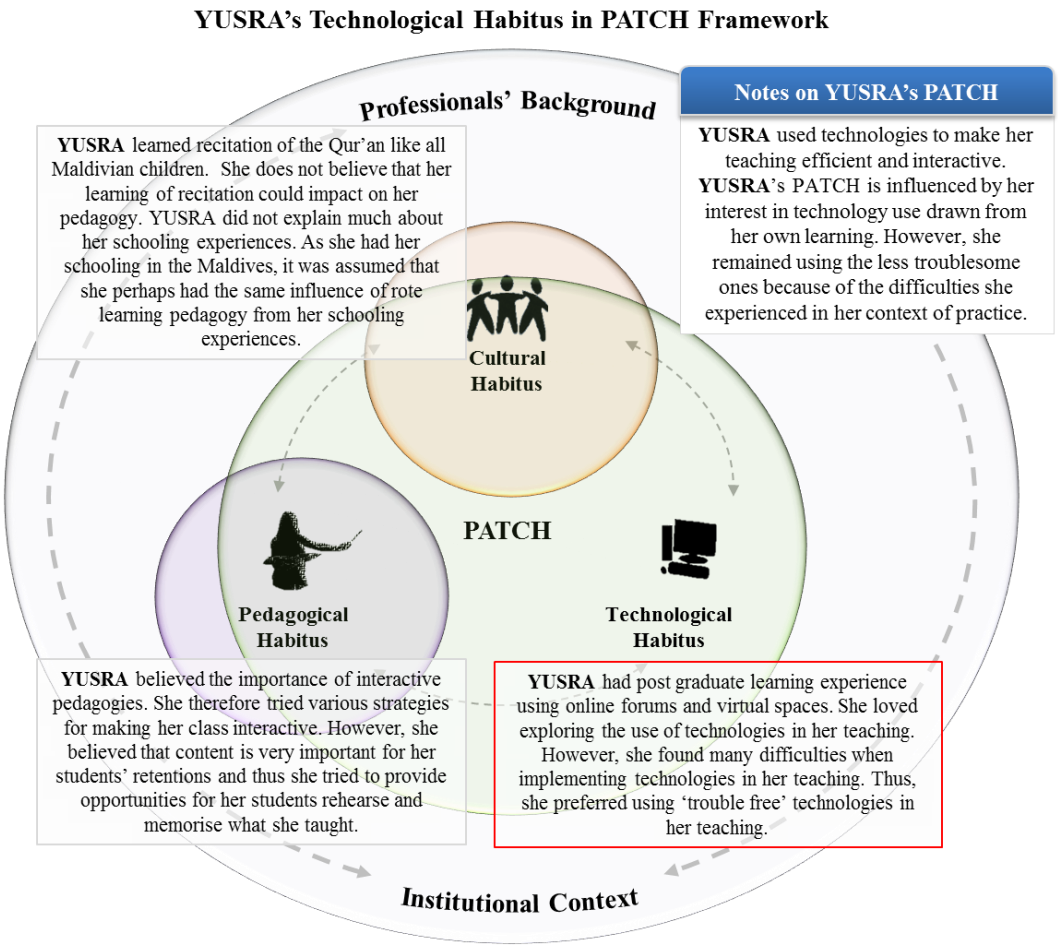


Figure 7. 6. **Yusra's technological habitus**

At the very early stage of data collection (interview and hanging out with her), Yusra repeatedly mentioned her fascination with various technological tools and facilities, specifically virtual spaces such as Moodle, and had tried some of these in her teaching. However, she faced great technical difficulties when using Moodle, Self-Service, and GEM (virtual spaces available in the institution). As a result, she frequently complained about various facilities and technical support provided at her work, and so relied on those that worked efficiently. However, her selection of specific tools (such as PowerPoint) was influenced by the rote learning experience during her schooling and the cultural practices of recitation of the *Qur'an* without understanding.

In each of the cases discussed above, a specific habitus was dominant (see Figures 7.4 to 7.6) identifying the dominant habitus overlapping other types of habitus. The examples demonstrate how the PATCH framework can be applied in understanding and investigating various types of habitus in pedagogical and technological contexts of individual cases, but does not mean that, in every case, a specific habitus will become dominant.

Discussion of PATCH Framework

Pedagogical and technological cultural habitus (PATCH) is an emergent idea developed to understand teachers' existing pedagogical practices with technologies in relation to their backgrounds and culture. The literature discussed in Chapter Three clearly outlined the strong relationship between pedagogy and people's culture (Cheng et al., 2010; Gay, 2010a; Jenks, 1993; Kansanen et al., 2000; Kukari, 2004; Richardson, 2001; Wong, 2005). These researchers draw attention to the importance of understanding individuals' culture when explaining their pedagogical practices. For example, Gay (2010a) argued that often people's values, beliefs, insights, roles and responsibilities are derived from their culture. It is therefore, understandable that judgements and decisions made by teachers are associated with their cultures. I argue that teachers' dispositions are deeply embedded in their cultural habitus. It is noteworthy that though teacher educators in my research were individually different, their common culture largely influenced their pedagogical and technological practices. Culture in this sense can include teachers' own backgrounds (such as learning experiences), religious practices (such as learning recitation of the *Qur'an*), and the influence of the context where they teach (education system).

This idea explains what Bourdieu (1977) argues, that teachers' culture can become a strong 'field' where individuals' dispositions are shaped through a socialisation process. The socialisation process is one in which teachers conceptualise their pedagogical

practice with technologies. The facilities available (economic capital) in the teachers' workplace or their cultural upbringing (social and cultural capital) can become a large part of their formed dispositions. Literature suggests that teachers learn their practical pedagogical knowledge as they continue teaching in the context of practice (Dewey, 1904; Loughran & Northfield, 1996). The influence of teachers' own culture and the context, therefore, cannot be ignored in an analysis of their pedagogical practices. Teachers decide their pedagogical strategies based on their own understanding of what it means to teach and how it would suit their context of practice (Barton & Berchini, 2013; Liyanage, 2012; Williams, 2006).

However, as discussed earlier, the literature presents limited knowledge about the relationship between how teachers use technologies and how their practice associates with their cultural backgrounds. My PATCH framework is pertinent to researchers' arguments about the strong connection between teachers' conceptualisation of pedagogical practice and their culture. This framework may help researchers not only examine teachers' use of technologies in teaching, but also identify what to address and which areas to focus on when change is necessary in order to enhance pedagogical practices. Also, it may inform those who design educational professional development programmes linking pedagogy with technologies.

In addition, the PATCH framework is timely because a number of technology integration models have failed to explain the connection between technology, pedagogy, and culture. In order to understand what happens in the context of my research, I examined four models proposed for understanding technology-integrated pedagogies: Technology Adoption Model (TAM) (Davis, 1989); ASSURE model (Russel & Sorge, 1994); SAMR (Substitution, Augmentation, Modification, and Redefinition) model (Puentedura, 2012); and TPACK (Technological, Pedagogical and Content Knowledge) model (Mishra & Koehler, 2006).

The TAM (Davis, 1989) model suggests that professionals adopt technology because of the perceived individual benefits and the ease of technology use for their practice. Many researchers have explored teachers' use of technologies through this model (Ajzen & Fishbein, 1980; Aldunate & Nussbaum, 2013; Keengwe et al., 2009). Nevertheless, these studies provide limited understanding of how teachers' culture may impinge on their pedagogical practices. Secondly, the ASSURE model theorised by Russel and Sorge (1994) provides some insights into understanding classroom practices of teachers and their use of technologies. This model suggests how teachers' actions of using technology may take place, considering various aspects related to their pedagogical contexts (Baran,

2010). Though some researchers adopted this model for examining technological and pedagogical contexts of classroom practices, the model offers very little regarding teachers' cultural background and its influence on their use of technology and the shaping of pedagogical habitus. Thirdly, the SAMR model proposed by Puentedura (2012), provides limited information that addresses teachers' educational and cultural backgrounds. Instead, this framework expects every teacher to be competent in changing their pedagogical practices. It overlooks the influence of teachers' background. In other words, it leaves limited room for understanding how teachers' backgrounds may be linked to what they do for substituting, augmenting, modifying, or redefining their use of technologies.

The fourth is the TPACK model proposed by Mishra and Koehler (2006). This model is seminal regarding technology use in pedagogies. It suggests the importance of three domains of knowledge (technology, pedagogy, content) for teachers' conceptualisation of technological and pedagogical practices (Harris et al., 2009; Heaven et al., 2006; Koehler & Mishra, 2009; Koehler & Mishra, 2005a, 2005b). TPACK is framed to assist teachers to design their teaching with appropriate use of technologies in relation to their situated context. The appropriate use of technologies includes the teacher's understanding of the interaction between the three domains of knowledge when learning is designed. The model overly concentrates on teachers' technology fluency and appropriate use, ignoring teachers' culture and background as part of how they conceptualise their technological and pedagogical practice.

This model has been widely discussed in various pedagogical contexts, subject areas, and across regions (Abbitt, 2011a, 2011b; Brantley-Dias & Ertmer, 2013; Chai et al., 2011; Ching Sing et al., 2010; Hyo-Jeong & Bosung, 2009; Koh et al., 2010; Koh & Divaharan, 2011; Mouza, 2011; Sahin, 2011; Schmidt et al., 2009). These studies provide limited insights for understanding teachers' culture and its connection with teachers' conceptualisation of pedagogical practices with technologies. Brantley-Dias and Ertmer (2013) suggest that the TPACK model needs to be focused for teachers to help them learn a meaningful technology integration in their practices. Mouza (2011) attempted to examine urban teachers' backgrounds in order to help them enact TPACK in their practice through a professional development programme in urban charter school, USA. However, she did not explain the impact of her participant teachers' backgrounds on their development of TPACK, yet, focused on examining the teachers' fluency of using technologies. My contention is, if the TPACK model, in its current form helped researchers' understanding of teachers' backgrounds, it could have been addressed in many studies to explain teachers' use of technologies in relation to their culture. In these

studies, the outer ring, "context" was not considered as part of making connections with teachers' culture and backgrounds. More specifically, it does not address what my participants have shown me: that early learning experiences can have a profound impact on pedagogical thinking. In turn this affects their choice and use of digital technologies in their classrooms. TPACK studies have ignored teachers' backgrounds and culture when interpreting their findings, as discussed earlier (refer Chapter Three). This clearly draws attention to their overconcentration on technology, rather than on teachers' and their backgrounds when examining their use of these technologies, which leads to a critical gap in the technology-integration research field. Specifically, since teachers' pedagogical practice is closely linked with cultural norms, it is pertinent to consider teachers' culture when understanding their use of technologies in pedagogical practices (see Figure 7.7).

The PATCH framework is a start in filling this critical gap. The framework contributes to technology integration research in terms of explaining what happens in many pedagogical contexts where the anticipated change in response to technology use was not observed. The PATCH framework is useful to analyse teachers' past and present experiences when investigating their pedagogical and technological practice, helping me to identify what aspects need to be considered when I develop professional development in my institution later.

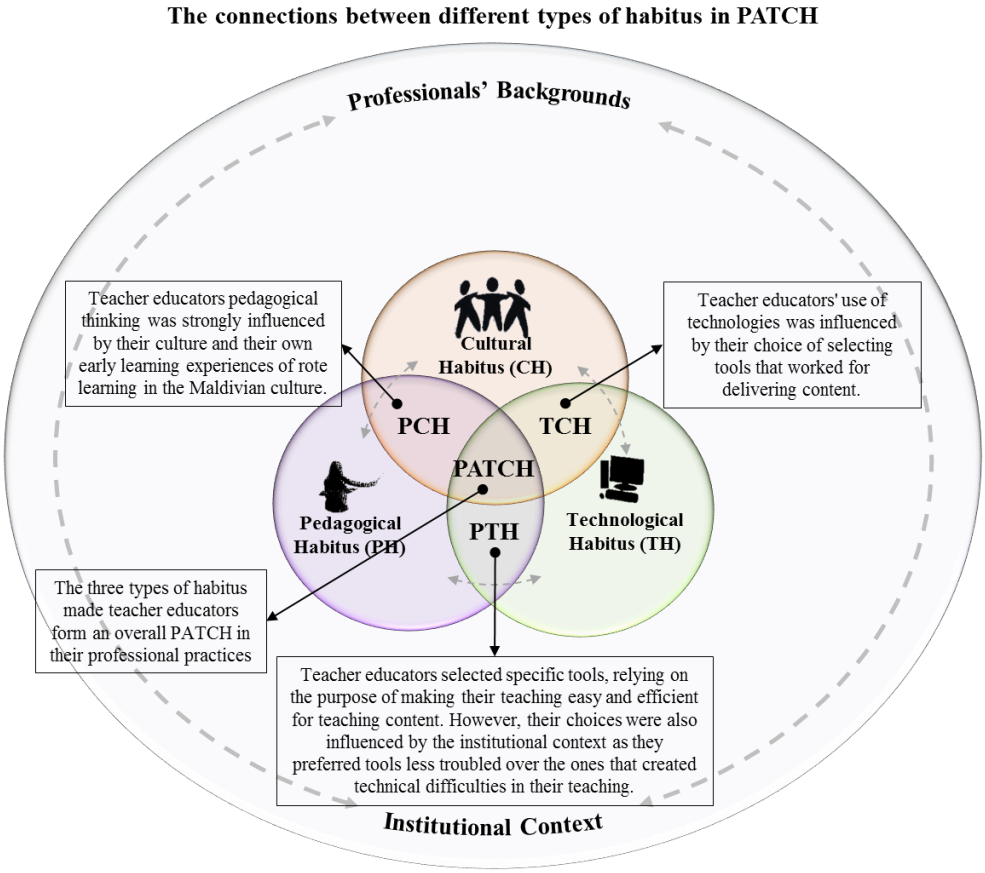


Figure 7. 7. **The connections between different types of habitus in PATCH**

To conclude, my framework helps to make connections between the embodied cultural aspects of teachers' experiences and how they relate to their existing pedagogical practices of using technologies. PATCH explains much in terms of the relationship between different habitus types (Figure 7.7).

Chapter summary

The chapter discussed major findings of the research. The discussion was divided into three sections which each answered a specific research question through generated themes. The first section examined social and cultural learning norms associated with teacher educators' shaped pedagogical and technological practice in the Maldives. The second section discussed teacher educators' institutional context and its effects on their shaping of specific pedagogical and technological practice. The third section evaluated the process of forming pedagogical and technological practice. The chapter also has explained the conceptualisation of the PATCH, how specific habitus types were formed, and how particular habitus and its influence can be understood within different cases. The chapter concluded by explaining how the PATCH framework contributes to an understanding of the connections between culture, pedagogy, and technology that had previously been overlooked in technology integration research.

Chapter Eight: Conclusion

The previous chapter discussed the major findings and theorised the pedagogical and technological cultural habitus (PATCH) framework. This chapter concludes the thesis by briefly answering my research questions and disclosing some limitations. The chapter then summarises the potential contributions of my thesis, including theoretical, methodological and context contributions to Maldives' teacher education. The chapter also outlines some recommendations for further research by recapitulating with a final reflection at the end.

Summary of the Research

The purpose of this study was to investigate teacher educators' use of technologies in their pedagogical practices in the Maldives. My interest in this research arose from my personal experience of reflecting on my own pedagogical practice with technologies during my eight year teaching career. Previous research in this area has given little attention to understanding teachers or teacher educators' culture when exploring pedagogical and technological practices. A considerable literature pertaining to pedagogy and its conceptualisation acknowledges the strong connection between teachers' culture and their conceptualisation of pedagogical practice, but there is limited understanding on how teachers' use of technologies could be understood in relation to their culture and backgrounds.

Therefore, my argument is that pedagogical and technological practice cannot be fully understood without looking at teachers' backgrounds. Accordingly, my overarching question was how teacher educators' pedagogical and technological practice was formed in their specific culture (Maldives). Three sub-questions thus followed:

1) What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?
2) How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?
3) How do teacher educators form their pedagogical and technological practice?

In order to answer these research questions, I used an ethnographic methodology approach for gathering data, through interviews, observations, focus groups and hanging out with participants. Data were collected from a cohort of eleven teacher educators in a university, located in the Maldives. The main themes for reporting the findings were

generated through various strategies adhering to grounded theory. The answer for each research question is briefly given in the sections following.

1. **What are the social and cultural learning norms that influenced teacher educators' use of technologies in their pedagogy?**

My study indicates that teacher educators' pedagogical and technological practices are influenced by their social cultural learning norms such as learning to recite the *Qur'an* without understanding it. This cultural practice has also unconsciously influenced both teacher educators' view of learning and the pedagogical practices that formed later. This cultural practice was reinforced by their own learning experiences of accepting knowledge from experts (teachers), memorising and note-taking habits in school classrooms (Figure 8.1). This 'in turn' influenced their conceptualisation of pedagogy and their later pedagogical practices. In other words, teacher educators' cultural practice of learning to recite the *Qur'an* and their early classroom experiences were later reflected in pedagogical practices, regardless of their technology uses. This finding highlights what teacher educators need to review regarding their pedagogical practices in terms of designing better learning environments for their students.

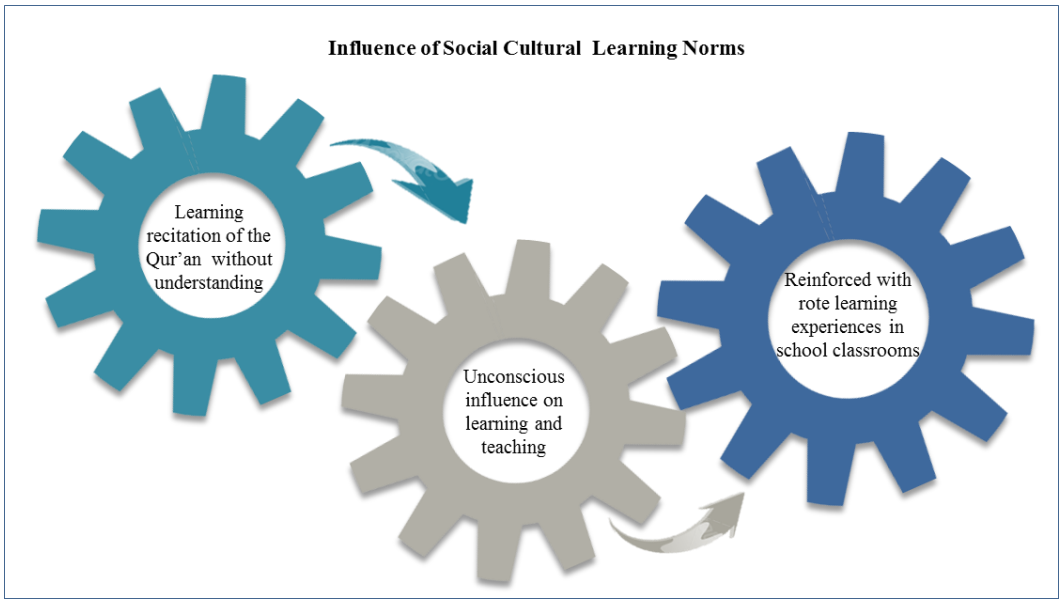


Figure 8. 1. **Influence of social and cultural norms**

This finding may be pertinent for other Muslim cultures in which the rote learning of recitation of the *Qur'an* without understanding its meaning is practised. I speculate that the early cultural practice of such rote learning is likely to influence teachers' conceptualisation and practice of pedagogy, which then can become reflected in their later incorporation of digital technologies in teaching.

2. How does the institutional context influence teacher educators' use of technologies in their pedagogical practice?

The findings demonstrated that teacher educators' formed pedagogical and technological habitus was influenced by two aspects of their institutional context: pedagogical and technological (Figure 8.2).

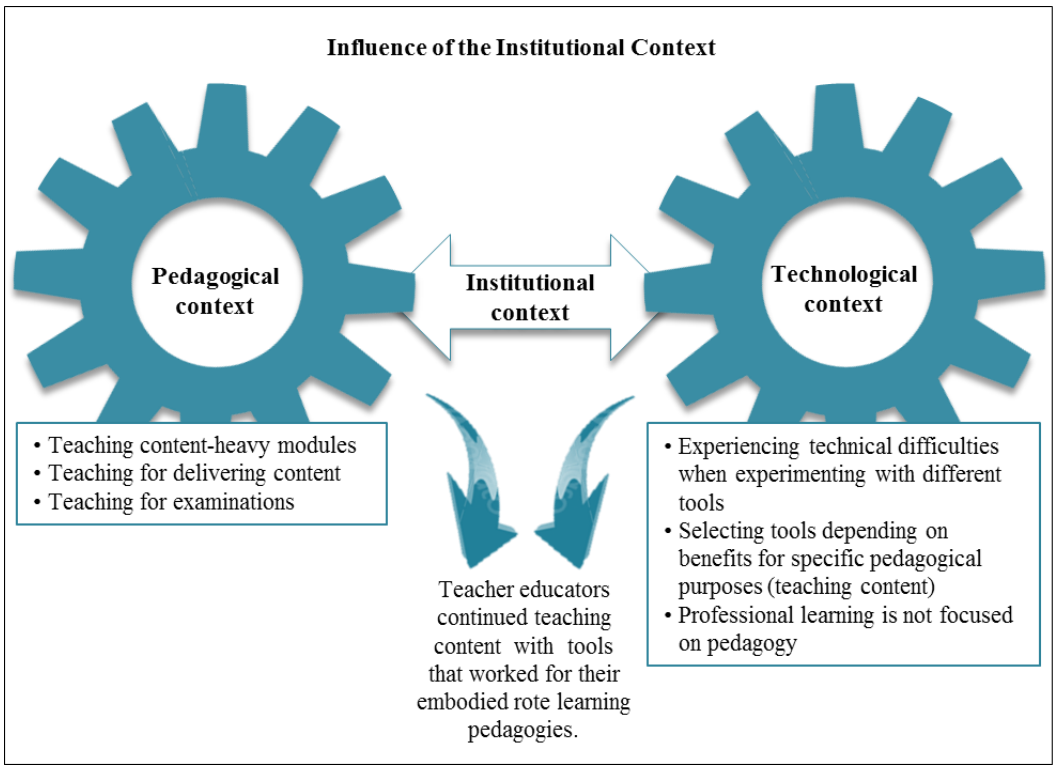


Figure 8. 2. **Influence of institutional context**

In the pedagogical context, teacher educators' shaping of content-oriented pedagogy was influenced by the examination-oriented system, content-heavy modules, and their students' demands for delivering and explaining content. In the technological context, teacher educators' PowerPoint-assisted pedagogy was influenced by the technological context of their workplace, related to technology infrastructure, technical support and technology related-professional learning. However, the professional learning designed for teacher educators did not bring much change to their use of technologies in their pedagogical practices because the professional learning focused on the introduction of new tools, rather than on pedagogy. This separation from practice is argued in Mishra & Koehler's (2006) TPACK, as being detrimental to teachers' uptake of technologies in learning and teaching environments. Teacher educators thus continued teaching content without necessarily thinking about the implication of using technologies on their student learning. This finding raised a number of implications to teacher educators' workplace. These were:

1) Redesigning their professional learning programmes for better understanding of digital technologies in teaching;
2) Promoting the best use of facilities available at their workplace;
3) Monitoring and updating the facilities available at teacher educators' workplace so that these facilities can be best used in teaching; and
4) Building a research culture in terms of opening opportunities for examining what they do with digital technologies and how their practice affects their students' learning.

3. How do teacher educators form their pedagogical and technological practice?

This study indicates that the teacher educators formed cultural habitus in their pedagogical and technological practice through the influence of their culture and workplace context (the two components as outlined in Figure 7.2). The habitus they formed, however, involved three aspects represented within these two components. These aspects are cultural (such as learning to recite the *Qur'an* without understanding reinforced with the rote learning experiences during schooling) (Figure 8.1); technological (gained benefits as they continued teaching content); and pedagogical (pedagogical purposes of teaching content) (Figure 8.2). Through these aspects, teacher educators formed different types of habitus, influencing their overall pedagogical (content-oriented) and technological (PowerPoint-assisted) cultural habitus. Although the teacher educators' pedagogical and technological habitus was formed through three types of habitus, each habitus did not influence their overall habitus equally. The degree of influence from each habitus is demonstrated by my three cases (Figures 7.4 - 7.6). More specifically, teacher educators' content-oriented pedagogical habitus was influenced by both the culture and the institutional pedagogical context, while their PowerPoint-assisted technological habitus was heavily influenced by their institutional context. The findings thus not only contribute to the institution where the participants work but also to the whole education system of the Maldives. These contributions include:

1) Redesigning the cultural practice of learning to recite the *Qur'an*;
2) Promoting of a research culture examining teaching and learning of all levels including all areas such as how to learn to recite the *Qur'an*; and
3) Investigating how the examination-oriented teaching could change to open better opportunities for student learning.

Limitations of the Research Methodology

Research ought to be evaluated in light of the potential limitations that may have an impact on the research itself. These are briefly outlined below.

- My research was confined to the context of the Maldives. Data were gathered from eleven Maldivian teacher educators in a university context, and may not be generalisable to all Maldivian teacher educators or to other teacher educators in other contexts.
- I collected data from teacher educators, but my research did not focus on understanding their teacher education pedagogies, rather their pedagogical practices as teachers. It was limited to how teacher educators teach as teachers, rather than teacher educators. In other words, my research did not deeply investigate their teacher education pedagogical theory knowledge.
- My research focused on understanding Maldivian cultural influences on teacher educators' shaped pedagogical and technological practice. It concentrated attention on understanding the influence of learning recitation of the *Qur'an* on teacher educators' pedagogies formed later. Therefore, the effects of other aspects such as parenting may not necessarily be understood within my research findings.
- Since I worked as an insider researcher, my research process may have involved my personal bias resulting from my background knowledge, and familiarity with the research site and the participants. This means that the elicited data may have been influenced by the familiarity between us. I have acknowledged this position in order to make the research process clearer, and disclosed any issue which may have led to bias due to my familiarity with the research participants and the site. I was also mindful of validating the data gathered more than three or four times by using a variety of data gathering tools. In addition, the analysis of the different phases led me to check my understanding of the data with the participants in two different forms, one in the focus group sessions face-to-face and the other when follow-up interviews were carried out.
- As my ethnography was limited to a certain period of time with the teacher educators, the elicited data does not represent the entire process of their formed habitus.
- Since technology infrastructure is relatively limited in terms of affordability, facilities, and quality of resources in the Maldives, the participants may have had limited experiences of technology use. Thus, their formed pedagogical and technological habitus has to be understood within the limited use of technologies in the Maldivian context.
- Since the data collection involved interviewing and focus group sessions with some participants using the local language, researcher bias might have come into effect when translating data into English. I was thus careful to discuss my

findings with the participants and with other research colleagues in order to lessen any such bias.

- The research participants were selected on a purely voluntary basis without necessarily focusing on specific characteristics. Thus, the elicited data may be restricted to the respective participants' experiences, rather than other teacher educators in the same institution.

Contributions of this Thesis

This research has contributed to the research field by recognising the impact of these teacher educators' culture and background on their pedagogical and technological practices. The main contributions can be highlighted in three ways: theoretical, methodological and contribution to the Maldives.

Theoretical Contributions

My research has contributes two concepts to theoretical knowledge. One is the proposed PATCH framework; the other is the addition of 'Teachers' habitus' to the TPACK framework. Each of these is explained next.

1) The PATCH Framework

My research has proposed an emerging understanding of pedagogical and technological cultural habitus, the PATCH framework (see Figure 8.3). This framework identifies two new components (professional's background and institutional context). This framework explains that Maldivian teacher educators' cultural habitus in their technological and pedagogical has been formed through an interconnected relationship between three types of habitus: cultural, pedagogical, and technological. The framework uses two-way arrows to indicate the strong reciprocal nature of the connections between these three types of habitus. These arrows also imply that the more tightly these four types are associated, the stronger the overall habitus becomes (Figure 8.3). Although these three habitus types are drawn as equal in size, it does not mean that each would play an equal role in the formation of an individual overall habitus. The degree of influence from each habitus can be represented by the degree of space the respective habitus occupies overall, as seen in Figures 7.4 to 7.6 in Chapter Seven.

The PATCH framework is, I hope useful for teachers, teacher educators, and lecturers in various pedagogical contexts including virtual and blended pedagogical spaces. It contributes to theory in several ways:

- It contributes to an understanding of teacher educators' pedagogies in relation to their culture and habitus.
- It illustrates three types of habitus associated with teacher educators' pedagogical and technological practice: cultural, pedagogical, and technological habitus.
- It recognises the link between teachers' habitus, their use of technologies and TPACK.
- It offers a working framework for investigating technological and pedagogical cultural habitus among teachers, teacher educators, and university lecturers.

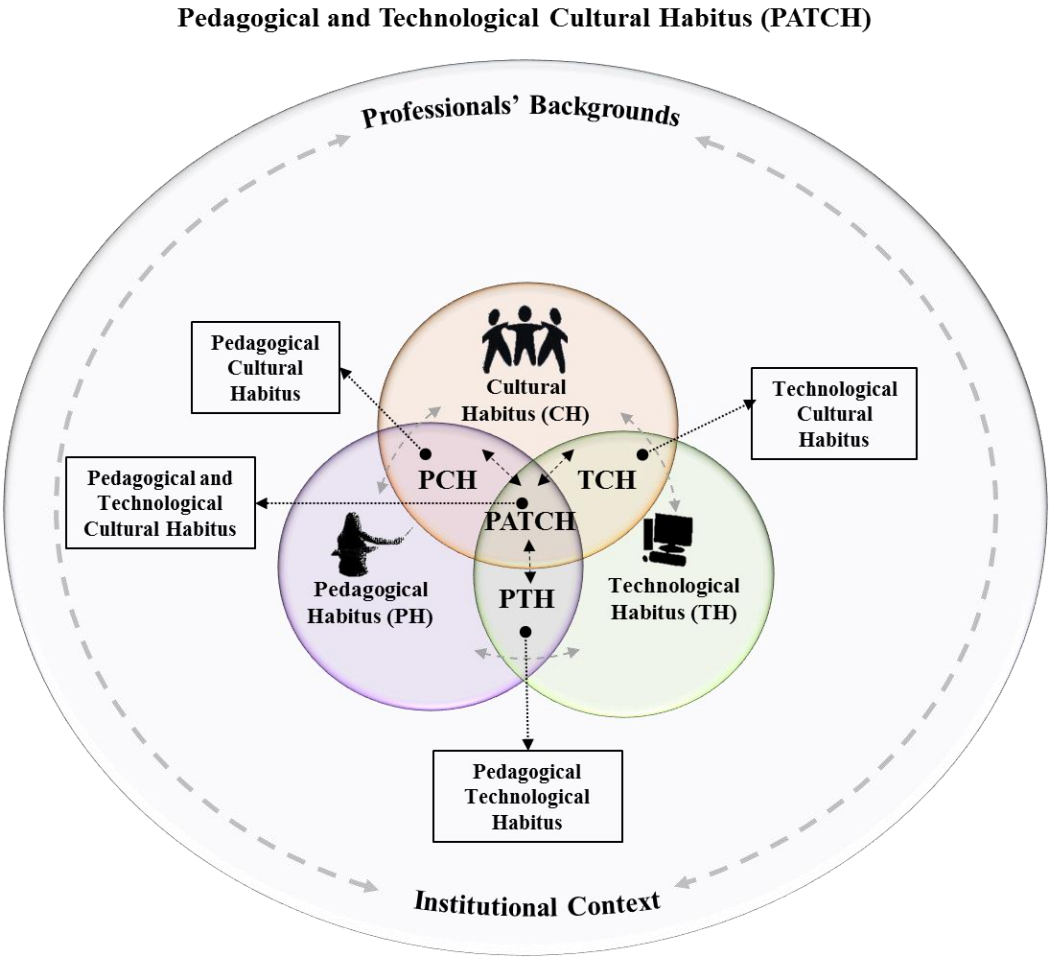


Figure 8. 3. **The PATCH framework**

2) Addition of Teacher's PATCH to TPACK Framework

The TPACK model was originally to better understand links between PCK and digital technologies. It encompasses three dimensions of teacher knowledge about technology, pedagogy and content (Mishra & Koehler, 2006) as illustrated in Figure 8.4. Mishra and Koehler (2006) argue that these three types of teacher expertise are equally important to represent teachers' understanding of technology integration in their pedagogical practices. TPACK researchers frequently reported the lack of teachers' conceptualisation of pedagogical change when integrating technologies. Regardless of widely conducted

research on TPACK in teaching, few of these studies have provided insights into teachers' culture and its connection with the pedagogical habitus they have formed. Neither has the TPACK model itself made room for considering teachers' backgrounds and culture nor have TPACK studies put emphasis on understanding the role of habitus when implementing its theoretical knowledge in teacher education or professional learning. TPACK researchers need to consider teacher backgrounds and culture because their theorisation is related to teacher knowledge, and teacher knowledge cannot be developed if teacher backgrounds are overlooked. I believe the current TPACK framework does not adequately help understanding pedagogical contexts in specific cultures such as, for example, the Maldives.

The Maldives has a long history of traditional pedagogical practice in its culture. My research in the Maldives helps me understand Maldivian teachers' existing habitus before they added digital technologies. As discussed in Chapter Eight, teacher educators' habitus and their cultural backgrounds are immensely important for understanding pedagogical practices with technologies in specific cultures. These then help in identifying what changes are required for enhancing teachers' pedagogical practices and their ways of using technologies. If TPACK is to be implemented in teacher education or the professional learning of educators in the Maldives or in other cultural contexts, it needs to provide more than it currently offers. Without bringing a major conceptual change to Mishra and Koehler's (2006) TPACK framework (Figure 8.4), I propose adding an outer layer to this model to represent teachers' backgrounds and habitus, as in Figure 8.5. It thus extends the original model, as shown in Figure 8.4.

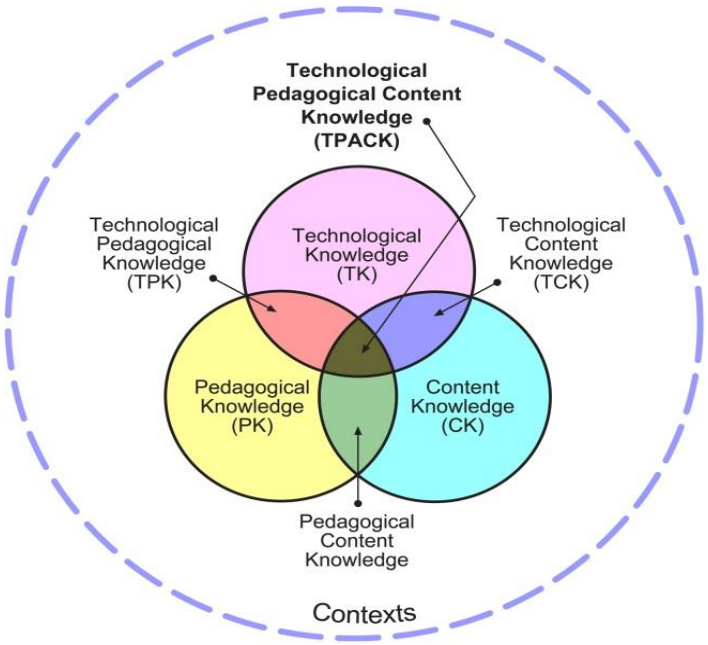


Figure 8. 4. **Technological Pedagogical Content Knowledge (TPACK), Source: http://tpack.org**

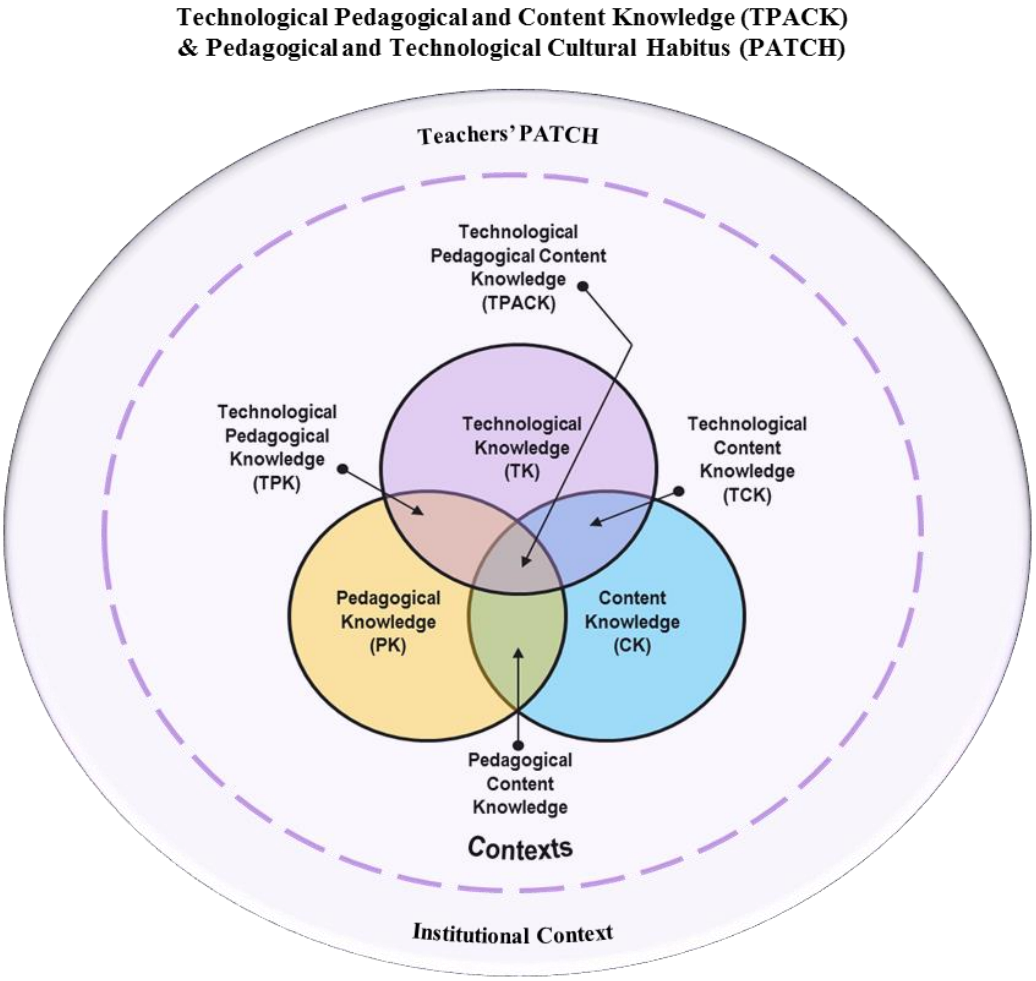


Figure 8. 5. **Addition of Teacher's PATCH to Mishra and Koehler's (2006) TPACK**

Teachers' PATCH is an important layer. It can be represented by a shaded and extended line beyond the dotted circle of the original TPACK framework. This would better serve researchers in understanding and investigating technology-integrated pedagogical practices in various educational contexts. The context frame, therefore, focuses on the specific educational site of practice, while the outermost frame shows how an educator's PATCH is likely to affect how TPACK is played out in practice (Figure 8.5).

Methodological Contributions

My research has contributed to methodological knowledge by proposing outlines for an ethnographic process, the habitus lens for understanding pedagogical contexts, and an outline of grounded theory analysis using digital tools.

1) Outline of My Ethnographic Methodology Process

In my research process, I was able to outline a structured ethnographic process for complementing both data collection and data analysis as a single process, as shown in Figure 8.6. The literature on ethnographic studies provides limited explanation of the

process of ethnographic research. This outline is, therefore, useful for doctoral researchers or any qualitative researcher. The details of my ethnographic research process and how it was applied can be found in Chapter Five.

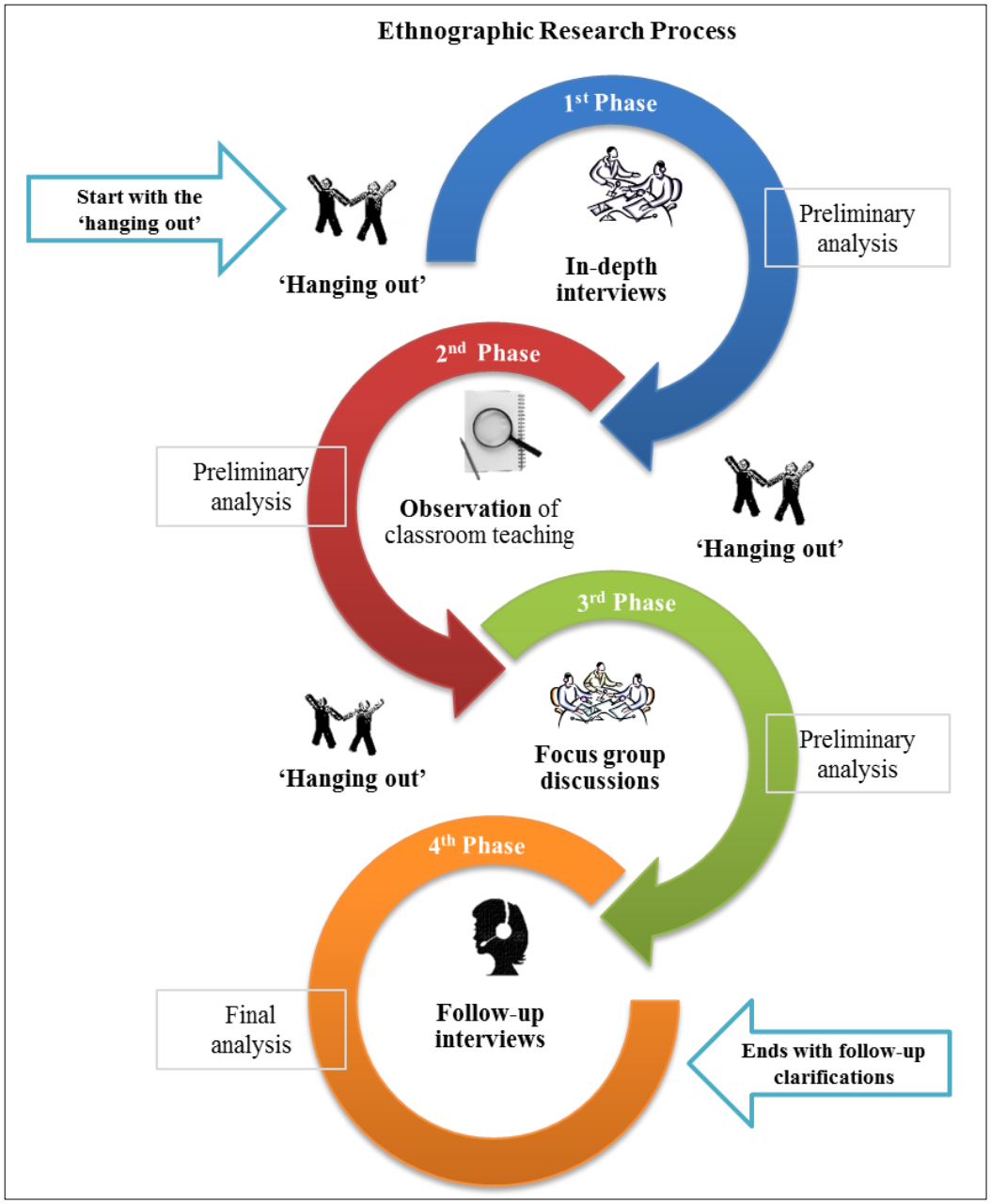


Figure 8. 6. **Contribution to ethnographic methodology**

2) Outline of Bourdieu's Habitus Lens

My research uses Bourdieu's habitus to understand pedagogical practices (Figure 8.7) to investigate Maldivian teacher educators' pedagogical practices, providing a structured research analysis lens. My research provides a detailed explanation of how this lens was used for both investigation and analysis. More details on its theorisation can be found in Chapter Four. This outline thus might be useful for other researchers examining and

understanding pedagogical practice of teachers in a range of educational contexts beyond the Maldives.

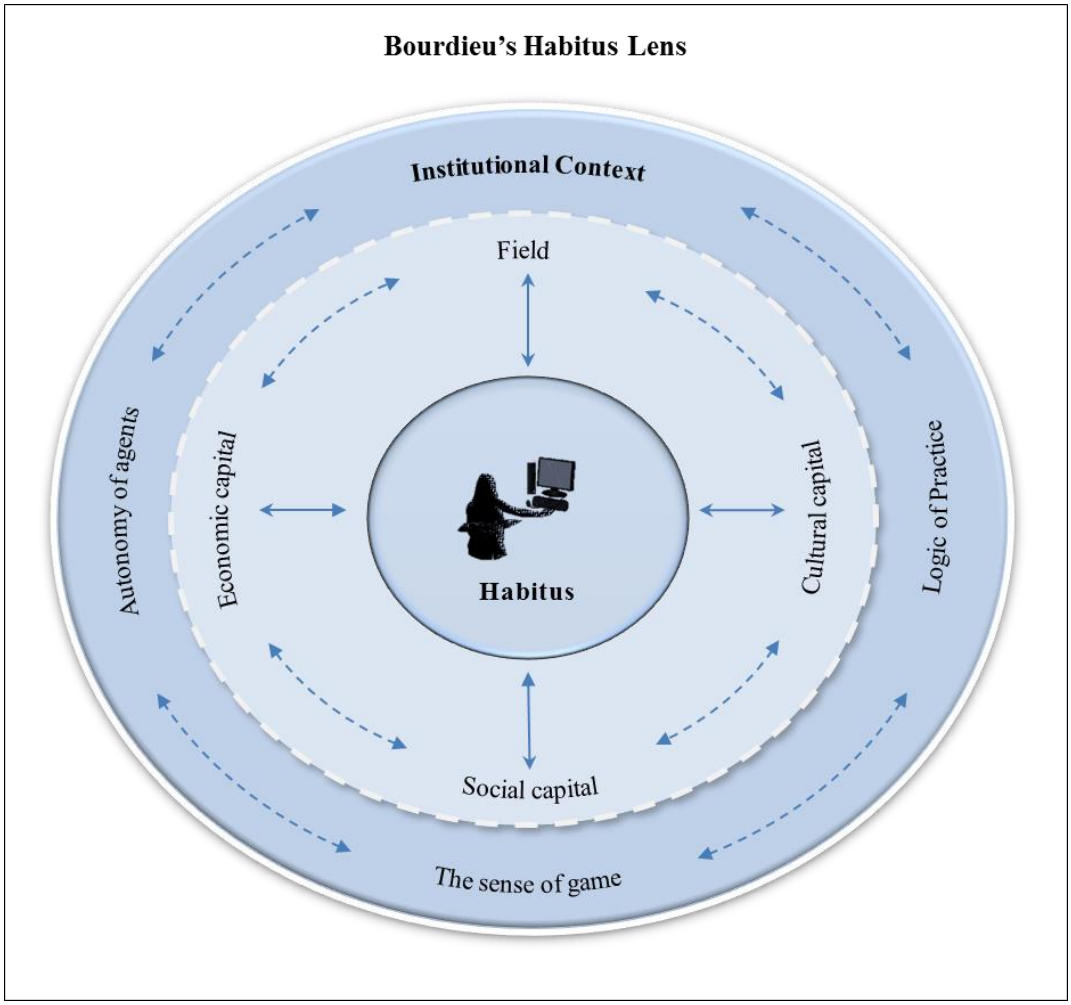


Figure 8. 7. **Contribution to habitus lens**

3) Outline of Data Analysis process using Digital Tools

I have outlined a qualitative data analysis process using various digital tools while adhering to grounded theory (Figure 8.8). The outline I developed might suit other researchers and doctoral candidates in capturing a comprehensive understanding for grounded theory analysis. Through this outline, I argue that researchers should not be restricted in their analysis strategies by limiting themselves to a single digital tool. They should apply multiple strategies, adopting appropriate tools 'fit for purpose' for generating meaning from data. Details on the steps, my purposes in using different tools, strategies and application of this outline can be found in Chapter Five.

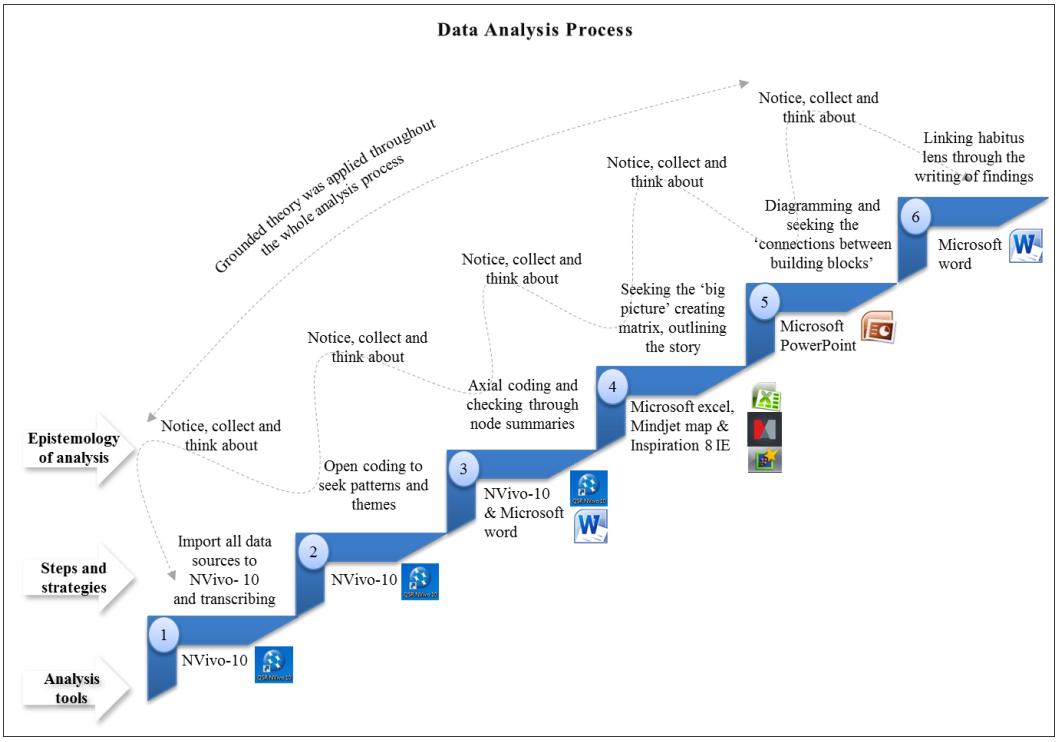


Figure 8. 8. **Contribution to qualitative data analysis**

Contribution to the Maldives

My research has identified how the deep rooted cultural practice of learning to recite the *Qur'an* influences the formation of teacher educators' pedagogical practices in the Maldives. Thus, my research may make a significant contribution to the Maldives by:

- Potentially informing the Ministry of Education in restructuring curriculum to reshape the education system in order to enhance both student learning and the pedagogical practices of teachers;
- Highlighting important areas to address when designing professional learning in order to bring effective change in educators' pedagogical practices;
- Outlining a specific cultural habitus which is rooted in the Maldivian culture, and its influence on pedagogical practices in the Maldives. Hence, the study has useful implications for policy reviews, curriculum design, teacher education programmes, and professional development; and
- Providing useful evidence for strengthening and enhancing the reliability of the Internet and its speed to support education in teacher education contexts.

Thus, my research has implications for the Maldives, Maldivian teachers and teacher educators, and heads of higher education.

Implications: a) For the Maldives

My research has contributed to understanding technology integration in the pedagogical practices of teacher educators in the Maldives by providing an in-depth understanding of

cultural habitus in their technological and pedagogical practices. It has clarified specific social and cultural learning norms specifically, the cultural practice of learning recitation of the *Qur'an*. Perhaps this is an important area to research to better know how it impacts on pedagogies. It would help both private and public tertiary institutions (faculties and universities) and policy makers (Ministry of Education) to design programmes for enhancing technological and pedagogical practices in the Maldives. In addition, an understanding of the impact of learning recitation of the *Qur'an* without understanding is useful for redesigning and restructuring school curricula. I, therefore, also speculate that it could be pertinent to other non-Arabic Muslim countries and communities which focus on learning recitation of the *Qur'an* without understanding the meaning of its manuscript.

Implications: b) For teachers, teacher educators and lecturers

My research identified the social, cultural, and institutional aspects of the technological and pedagogical practices of teacher educators. It may be useful for increasing awareness of educators' own pedagogies, helping them to enhance their practice in many ways. These can include how to:

a) reflect on their own practices;
b) seek the relevance of specific technologies available in their context of practice;
c) experiment with various technologies to allow opportunities for student use of technologies and to enhance their learning and thinking;
d) seek new learning about ways of marrying technology with pedagogy; and
e) promote constructivism and student-oriented pedagogical design to enhance learners' as knowledge producers, rather than knowledge receivers.

Implications: c) For heads of higher education

My research recognised institutional and organisational factors such as technology infrastructure and professional learning issues that influence the shaping of teacher educators' specific habitus. As a result, the findings may help the heads of higher education and administrators in:

a) assessing the organisational factors involved in technology infrastructure and technology support;
b) providing appropriate professional learning for academics;
c) introducing research and reflective practice to enhance pedagogical practices;
d) evaluating the technology infrastructure and facilities provided for academics; and
e) evaluating professional development programmes designed for academics in terms of its TPACK and PATCH value and influence.

Recommendations for Further Research

The findings of my study have highlighted some important areas for future research. These areas are briefly summarised as;

- The early experiences of learning the recitation of the *Qur'an*, appears to have a powerful influence on teacher educators' practices in my context. It would be interesting to see if this finding is borne out in other contexts, such as non-Arab Muslim communities.

- My findings noted that teacher educators' culture and backgrounds played an important role in their shaping of pedagogies in the Maldives, as shown in Figure 7.1. Examining the formation of PATCH in other contexts, perhaps with a particular focus on cultural habitus related to specific beliefs and philosophies about teaching would allow researchers to extend this understanding.

- My PATCH framework has contributed to understanding the strong influence of Maldivian teacher educators' backgrounds on their pedagogies. This may have potential for other researchers to examine this area in other contexts. An approach might be to investigate the use of both the PATCH and TPACK framework together (Figure 8.5) as one lens in exploring teachers' pedagogical practices with technologies.

- Other researchers may find the detailed outline of my ethnographic process (Figure 8.6) useful for their own research. Trying out the strategies and examples provided (Chapter Five & Appendix E) is an opportunity for researchers to test these in their own research to add to qualitative research methods.

- The qualitative data analysis model (Figure 8.8), I devised, plus Bourdieu's Habitus lens (Figure 8.7), combined may be useful tools for researchers to use when they analyse their own qualitative data.

Final Reflection

Through investigating teacher educators' pedagogical and technological cultural habitus, the findings have contributed to my personal knowledge in several ways.

- I have come to understand connections between my own habitus of early learning and my present pedagogical practices. This understanding will help me to enhance my use of technologies in my future pedagogical practices.
- I discovered that pedagogical practice with technology is influenced by past, present, conscious, unconscious, and deliberate actions associated with the pedagogical practice. This has made me realise the importance of reflective practice for enhancing my own teaching.
- I learned the benefits of adopting various data collection methods and lenses in research. This understanding will help in my future research career.
- I realised the benefits of diagramming to conceptualise methodological ideas, analysing data, and reporting findings in academic research. This approach enabled me to become a critical thinker as well as a better researcher.

My research made me realise how much I still need to discover about my area of study, specifically about my proposed framework (PATCH - see Figure 7.3). In future, I hope to examine the cultural, pedagogical, and technological habitus in various contexts (teachers, teacher educators, and lecturers), more specifically, and the relationship between these types of habitus. I also aspire to research how specific digital technological contexts could be understood through my proposed framework, including areas such as online learning, blended learning, and mobile learning.

Finally, by investigating this area, I realised how much the education system of the Maldives needs to change. The concentration on knowledge delivery has been repeatedly reported about Maldivian pedagogical practice. The examination-oriented teaching is established not only in the school classrooms but also in the teacher education practices. From my research, I observed that the current established pedagogical practice in the Maldives leaves little room for developing students' higher order thinking and critical thinking. Furthermore, the technologies available are not being properly used by teacher educators for enhancing student learning; rather they are adapted to make their teaching practice easy and efficient. My findings suggest that designing highly focused pedagogical professional learning with technologies is essential to improve teacher educators' practices. My research also suggests that introducing reflective practice, self-study, and, more importantly, a research culture in teacher education practice in the Maldives, will allow teacher educators to think differently and perhaps develop a less content-oriented pedagogy.

As a final word, although my findings draw attention to the importance of understanding people's backgrounds, I would rather describe the background as a *backpack*. I believe

that though people are restricted to their backpacks, they have the agency to replace, change, and add items to these. This metaphor suggests that in pedagogical terms, there is always the opportunity to renew the contents of the backpack, and alter the pedagogical and technological cultural habitus (PATCH) in people. Examining one's own backpack will uncover both important and unnecessary items. I argue that teachers' practices ought to be understood in relation to what is contained in their backpacks. My PATCH framework provides a way of understanding these, indicating what needs to change, and how necessary changes can be made in order to enhance teachers' use of technologies in their everyday pedagogical practices.

References

Abbitt, J. T. (2011a). An investigation of the relationship between self-efficacy beliefs about technology integration and technological pedagogical content knowledge (TPACK) among preservice teachers. *Journal of Digital Learning in Teacher Education, 27*(4), 134-143.

Abbitt, J. T. (2011b). Measuring technological pedagogical content knowledge in preservice teacher education: A review of current methods and instruments. *Journal of Research on Technology in Education, 43*(4), 281-300.

Abdou, A. A. (2012). T*eachers' recruitment and selection practices within different schooling systems in Egypt*.Cairo, Egypt: American University in Cairo.

Achinstein, B., & Barrett, A. (2004). (Re) framing classroom contexts: How new teachers and mentors view diverse learners and challenges of practice. *The Teachers College Record, 106*(4), 716-746.

Adam, A. S. (2013). Managing insider issues through reflexive techniques: An insider-researcher's journey *Te Kura Kete Aronui, 5*, 1-14.

Adams, C. (2012). PowerPoint and the pedagogy of digital media technologies. In M. Orey, S. Jones & R. M. Branch (Eds.), *Educational Media and Technology Yearbook* (Vol. 36, pp. 49-65). New York, NY: Springer

Adams, P. (2011). ICT and pedagogy: Opportunities missed? *Education 3-13, 39*(1), 21-33. doi:10.1080/03004279.2010.492353.

Adamy, P., & Heinecke, W. (2005). The influence of organizational culture on technology integration in teacher education. *Journal of Technology and Teacher Education, 13*(2), 233-255.

Ahmed, I. (2004). Statistics and indicators on ICTs in Maldives. *Global Indicators Workshop on Community Access to ICTs* (pp. 16-19). Mexico City, Mexico: Telecommunications Authority of Maldives.

Ahmed, M., Azeem, M., Khalid, I., Farrukh, I. A., Ahmed, F., & Ahmed, M. S. (2012). Teacher Education Program (B. Ed) in SAARC countries. *Journal of Public Administration and Governance, 2*(1), 134-149.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs,NJ: Prentice-Hall.

Aldunate, R., & Nussbaum, M. (2013). Teacher adoption of technology. *Computers in Human Behavior, 29*(3), 519-524. doi:http://dx.doi.org/10.1016/j.chb.2012.10.017.

Alexander, R. (2004). Still no pedagogy? Principle, pragmatism and compliance in primary education. *Cambridge Journal of Education, 34*(1), 7-33. doi:10.1080/0305764042000183106.

Ali, V., Cullen, R., & Toland, J. (2013, 7-10 Jan. 2013). Information and communications technology in the tourism sector of the Maldives: An institutional perspective. *System Sciences (HICSS), 2013 46th Hawaii International Conference* (pp. 4226-4235). Wailea, HI: IEEE.

Angrosino, M. (2007). *Doing ethnographic and observational research*. Thousand Oaks, CA: Sage.

Apple, M. W. (2004). *Ideology and curriculum*. New York, NY: RoutledgeFalmer.

Arpacı, İ., Yardımcı, Y., Özkan, S., & Türetken, Ö. (2012). Organizational adoption of mobile communication technologies *Emcis 2012.* Munich,Germany: Emcis 2012. 17-28. Retrieved from http://www.iseing.org/emcis/emcis2012/EMCISWebsite/proceedings/146.pdf

Athif, A., & Pimenidis, E. (2009). Ecrime threats on e-government:The case of Maldives. *Proceedings of Advances in Computing and Technology,(AC&T) The School of Computing and Technology 4th Annual Conference, University of East London* (pp. 16-25). London, England: ICGES Press.

Atkinson, P., & Hammersley, M. (1994). Ethnography and participant observation. *Handbook of qualitative research, 1*(23), 248-261.

Auyero, J., & de Lara, A. B. (2012). In harm's way at the urban margins. *Ethnography, 13*(4), 531-557. doi:10.1177/1466138111435746.

Avalos, B. (2000). Policies for teacher education in developing countries. *International Journal of Educational Research, 33*(5), 457-474. doi:http://dx.doi.org/10.1016/S0883-0355(00)00029-X.

Bailey, J. (2008). First steps in qualitative data analysis: Transcribing. *Family Practice, 25*(2), 127-131.

Baker, J. (2012). Shaping new pedagogies. *Idiom, 48*(3), 26-27.

Baker, L. M. (2006). Observation: A complex research method. *Library Trends, 55*(1), 171-189.

Bang, E., & Luft, J. A. (2013). Secondary science teachers' use of technology in the classroom during their first 5 years. *Journal of Digital Learning in Teacher Education, 29*(4), 118-126.

Banister, P. (2011). *Qualitative methods in psychology : A research guide* (2nd ed.). Maidenhead, England: Open University.

Baran, B. (2010). Experiences from the process of designing lessons with interactive whiteboard: ASSURE as a road map. *Contemporary Educatıonal Technology, 1*(4), 367-380.

Bartezzaghi, E. (2007). Quantitative versus qualitative: Putting the question in the right perspective. *Journal of Purchasing and Supply Management, 13*(3), 193-195. doi:10.1016/j.pursup.2007.09.013.

Barton, A. C., & Berchini, C. (2013). Becoming an insider: Teaching science in urban settings. *Theory Into Practice, 52*(1), 21-27. doi:10.1080/07351690.2013.743765

Bauer, J., & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology & Teacher Education, 13*(4), 519-546.

Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo* (2nd ed.). London, England: Sage.

Becker, H. J., & Riel, M. M. (1999). Teacher professionalism, school work culture and the emergence of constructivist-compatible pedagogies *Center for Research on Information Technology and Organizations,* Retrieved from http://www.crito.uci.edu/tlc/findings/special_report2/aerj-final.pdf.

Bell, B. (2003). Theorising pedagogy: Guest editorial. *Waikato Journal of Education, 9*, 3-10.

Bell, L. (2001). Preparing tomorrow's teachers to use technology: Perspectives of the leaders of twelve national education associations. *Contemporary Issues in Technology and Teacher Education and Practice, 1*(4), 517-534.

Belland, B. R. (2009). Using the theory of habitus to move beyond the study of barriers to technology integration. *Computers & Education, 52*(2), 353-364. doi:http://dx.doi.org/10.1016/j.compedu.2008.09.004.

Berg, B. L., & Lune, H. (2012). *Qualitative research methods for the social sciences* (8th ed.). Boston, MA: Pearson.

Bhanot, R., & Fallows, S. (2005). Quality issues in ICT-based higher education: Some introductory questions. In R. Bhanot & S. Fallows (Eds.), *Quality issues in ICT-based higher education* (pp.1-7). London, England: Routledge Falmer.

Bishop, R. (2003). Changing power relations in education: Kaupapa Maori messages for 'mainstream' education in Aotearoa/New Zealand. *Comparative Education, 39*(2), 221-238. doi:10.1080/03050060302555.

Bloor, M., & Wood, F. (2006). *Keywords in qualitative methods: A vocabulary of research concepts.* London, England: Sage.

Boccagni, P. (2011). From rapport to collaboration . . . and beyond? Revisiting field relationships in an ethnography of Ecuadorian migrants. *Qualitative Research, 11*(6), 736-754. doi:10.1177/1468794111415955.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3-15. doi:10.3102/0013189x033008003.

Borko, H., & Putnam, R. T. (1996). Learning to teach. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 673-708). New York, NY: Routledge.

Boshuizen, H. P. A., & Wopereis, I. G. J. H. (2003). Pedagogic benchmarks for information and communications technology in teacher education. *Technology, Pedagogy and Education, 12*(1), 149-159. doi:10.1080/14759390300200150.

Bott, E. (2010). Favourites and others: Reflexivity and the shaping of subjectivities and data in qualitative research. *Qualitative Research, 10*(2), 159-173. doi:10.1177/1468794109356736.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge, England: Cambridge University Press.

Bourdieu, P. (1984). *Distinction : A social critique of the judgement of taste*. London, England: Routledge & Kegan Paul.

Bourdieu, P. (1985). The social space and the genesis of groups. *Theory and Society, 14*(6), 723-744. doi:10.2307/657373.

Bourdieu, P. (1986). *The forms of capital*. New York, NY: Greewood Publishing Group.

Bourdieu, P. (1990a). *In other words: Essays towards a reflexive sociology*. Cambridge, England: Polity.

Bourdieu, P. (1990b). *The logic of practice*. Stanford, CA: Stanford University Press.

Bourdieu, P. (1993). *Sociology in question*. London, England: Sage.

Bourdieu, P. (2006). The forms of capital. In I. Szeman & T. Kaposy (Eds.), *Cultural theory: An anthology* (pp. 81-93). Oxford,United Kingdom: Wiley-Blackwell.

Bourdieu, P., & Wacquant, L. J. D. (1992). *An invitation to reflexive sociology*. Cambridge, England: Polity.

Brand, B. R., & Glasson, G. E. (2004). Crossing cultural borders into science teaching: Early life experiences, racial and ethnic identities, and beliefs about diversity. *Journal of Research in Science Teaching, 41*(2), 119-141. doi:10.1002/tea.10131.

Brantley-Dias, L., & Ertmer, P. A. (2013). Goldilocks and TPACK: Is the Construct "Just Right?". *Journal of Research on Technology in Education, 46*(2), 103-128.

Bray, M., & Adam, K. (2001). The dialectic of the international and the national: Secondary school examinations in Maldives. *International Journal of Educational Development, 21*(3), 231-244. doi:http://dx.doi.org/10.1016/S0738-0593(00)00031-6.

Bringer, J. D., Johnston, L. H., & Brackenridge, C. H. (2004). Maximizing Transparency in a Doctoral Thesis1: The Complexities of Writing About the Use of QSR*NVIVO Within a Grounded Theory Study. *Qualitative Research, 4*(2), 247-265. doi:10.1177/1468794104044434.

Britzman, D. P. (1989). Who has the floor? Curriculum, teaching, and the English student teacher's struggle for voice. *Curriculum Inquiry, 19*(2), 143-162. doi:10.2307/1179406.

Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. Jossey-Bass Higher and Adult Education Series: ERIC.

Brooks, J. G., & Brooks, M. G. (1999). *In search of understanding: The case for constructivist classrooms*. Alexandria, VA: ASCD.

Bryan, M. B., & Deyhle, D. (2000). Insider-ousider: Researchers in American Indian communities. *Theory into Practice, 39*(3), 163-169.

Bryman, A. (1984). The debate about quantitative and qualitative research: A question of method or epistemology? *The British Journal of Sociology, 35*(1), 75-92.

Buckley, C. A., & Waring, M. J. (2013). Using diagrams to support the research process: Examples from grounded theory. *Qualitative Research, 13*(2), 148-172. doi:10.1177/1468794112472280.

Burgess, R. G. (1985). *Strategies of educational research: Qualitative methods*. London, England: Falmer.

Burns, E., Fenwick, J., Schmied, V., & Sheehan, A. (2012). Reflexivity in midwifery research: The insider/outsider debate. *Midwifery, 28*(1), 52-60. doi:10.1016/j.midw.2010.10.018.

Cannon, R. (2001). Pedagogy: A point of view. *Teaching in Higher Education, 6*(3), 415-419. doi:10.1080/13562510120061250.

Chai, C. S., Ling Koh, J. H., Tsai, C.-C., & Lee Wee Tan, L. (2011). Modeling primary school pre-service teachers' technological pedagogical content knowledge (TPACK) for meaningful learning with information and communication technology (ICT). *Computers & Education, 57*(1), 1184-1193. doi:10.1016/j.compedu.2011.01.007.

Chapman, B. F., & Gaytan, J. A. (2009). Impact of post-secondary business teacher educators' employment characteristics and innovation factors on their adoption of current computer technologies as a pedagogical tool. *Delta Pi Epsilon Journal, 51*(3), 137-151.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London, England: Sage.

Charmaz, K. (2008). Reconstructing grounded theory. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The Sage handbook of social research methods* (pp. 461-478). Los Angeles, CA: Sage.

Cheng, M. M. H., Cheng, A. Y. N., & Tang, S. Y. F. (2010). Closing the gap between the theory and practice of teaching: Implications for teacher education programmes in Hong Kong. *Journal of Education for Teaching, 36*(1), 91-104. doi:10.1080/02607470903462222.

Ching Sing, C., Joyce Hwee Ling, K., & Chin-Chung, T. (2010). Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK). *Journal of Educational Technology & Society, 13*(4), 63-73.

Ching, Y.-H., & Hsu, Y.-C. (2011). Design-grounded assessment: A framework and a case study of Web 2.0 practices in higher education. *Australasian Journal of Educational Technology, 27*(5), 781-797.

Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research, 6*(3), 319-340. doi:10.1177/1468794106065006.

Clarke, A., & Erickson, G. (2004). The nature of teaching and learning in self-study. In J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.), *International handbooks of education* (pp. 41-67). Netherlands: Kluwer Academic.

Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249-305. doi:10.2307/1167272.

Coghlan, D. (2001). Insider action research projects: Implications for practising managers. *Management Learning, 32*(1), 49-60.

Coghlan, D. (2007). Insider action research doctorates: Generating actionable knowledge. *Higher Education, 54*(2), 293-306. doi:10.1007/s10734-005-5450-0.

Coghlan, D., & Brannick, T. (2005). *Doing action research in your own organization* (2nd ed.). London, England: Sage.

Coghlan, D., & Holian, R. (2007). Editorial: Insider action research. *Action Research, 5*(1), 5-10. doi:10.1177/1476750307072872.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London, England: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). London, England: Routledge.

Connelly, F. M., & Clandinin, D. J. (1988). *Teachers as curriculum planners: Narratives of experience*. New York, NY: Teachers College, Columbia University.

Conrad, C., & Serlin, R. C. (2011). *The Sage handbook for research in education : Pursuing ideas as the keystone of exemplary inquiry* (2nd ed.). Thousand Oaks, CA: Sage.

Cortazzi, M., Pilcher, N., & Jin, L. (2011). Language choices and 'blind shadows: Investigating interviews with Chinese participants. *Qualitative Research, 11*(5), 505-535. doi:10.1177/1468794111413225.

Cox, M., Cox, K., & Preston, C. (1999, Septemeber 2-5). *What factors support or prevent teachers from using ICT in their classrooms?* Paper presented at the British Educational Research Association Annual Conference, UK. Retrieved from http://www.leeds.ac.uk/educol/documents/00001304.htm.

Cox, M. J. (2013). Formal to informal learning with IT: Research challenges and issues for e-learning. *Journal of Computer Assisted Learning, 29*(1), 85-105. doi:10.1111/j.1365-2729.2012.00483.x.

Cox, S., & Graham, C. R. (2009). Diagramming TPACK in practice: Using an elaborated model of the TPACK framework to analyze and depict teacher knowledge. *TechTrends, 53*(5), 60-69. doi:10.1007/s11528-009-0327-1.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). London, England: Sage.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London, England: Sage.

Cuban, L., Kirkpatrick, H., & Peck, C. (2001). High Access and Low Use of Technologies in High School Classrooms: Explaining an Apparent Paradox. *American Educational Research Journal, 38*(4), 813-834. doi:10.2307/3202504.

Dahlquist, G. (2006). Ethics in research: Why and how? *Scandinavian Journal of Public Health, 34*(5), 449-452. doi:10.1080/14034940600654667.

Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (Eds.). (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abrod*. Washington, DC: National Staff Development Council.

daSilva, K. E. (2000). Thinking aloud. *Teaching Pre K - 8, 30*(7), 30-31.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

De Vries, Y., & Beijaard, D. (1999). Teachers' conceptions of education: A practical knowledge perspective on 'good' teaching. *Interchange, 30*(4), 371-397. doi:10.1023/A:1007653627203.

DeLyser, D. (2001). "Do you really live here?" Thoughts on insider research. *Geographical Review, 91*(1/2), 441-453.

Denzin, N. (2000). Interpretive ethnography. *Zeitschrift für Erziehungswissenschaft, 3*(3), 401-409. doi:10.1007/s11618-000-0040-5.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.

Dewey, J. (1904). The relation of theory to practice. Retrieved from http://people.ucsc.edu/~ktellez/dewey_relation.pdf.

Dewey, J. (1934). *Art as experience*. London, England: George Allen & Unwin.

Dexter, S., Doering, A. H., & Riedel, E. (2006). Content area specific technology integration: A model for educating teachers. *Journal of Technology and Teacher Education, 14*(2), 325-345.

Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. London, England: Routledge.

Dey, I. (2003). *Qualitative data analysis: A user friendly guide for social scientists*. London, England: Routledge.

Dixon, M., & Senior, K. (2011). Appearing pedagogy: From embodied learning and teaching to embodied pedagogy. *Pedagogy, Culture & Society, 19*(3), 473-484. doi:10.1080/14681366.2011.632514.

Duch, H. (2005). Consultation in international development: The case of early childhood in Maldives. *School Psychology International, 26*(2), 178-191. doi:10.1177/0143034305052912.

Duncan, M., & Watson, R. (2010). Taking a stance: Socially responsible ethics and informed consent. In M. Savin-Baden & C. H. Major (Eds.), *New approaches to qualitative research: Wisdom and uncertainty* (pp. 49-58). London, England: Routledge,Taylor & Francis Group.

Edgington, U. (2013). Performativity and affectivity: Lesson observations in England's Further Education colleges. *Management in Education, 27*(4), 138-145.

Edmunds, H. (1999). *The focus group research handbook.* Chicago,IL: NTC Business Books.

Edwards, A. (2001). Researching pedagogy: A sociocultural agenda. *Pedagogy, Culture & Society, 9*(2), 161-186. doi:10.1080/14681360100200111.

Elbaz, F. (1983). *Teacher thinking: A study of practical knowledge. Croom Helm Curriculum Policy and Research Series*. New York, NY: Nichols Publishing Company.

Ellingson, L. L. (2009). *Engaging crystallization in qualitative research : An introduction.* Thousand Oaks,CA: Sage.

Ellsworth, E. (1997). *Teaching positions: Difference, pedagogy, and the power of address*. New York,NY: Teachers College.

Emirbayer, M., & Johnson, V. (2008). Bourdieu and organizational analysis. *Theory and Society, 37*(1), 1-44. doi:10.1007/s11186-007-9052-y.

Engineer, A. A. (1986). Islam and reformation. *Islam and the Modern Age, 9*(1), 86-95.

Erlen, J. A. (2010). Informed consent: Revisiting the issues. *Orthopaedic Nursing, 29*(4), 276-280.

Ertmer, P. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development, 47*(4), 47-61. doi:10.1007/BF02299597.

Ertmer, P. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration? *Educational Technology Research and Development, 53*(4), 25-39. doi:10.1007/BF02504683.

Etheridge, C. P. (1989). Acquiring the teaching culture: How beginners embrace practices different from university teachings. *International Journal of Qualitative Studies in Education, 2*(4), 299-313. doi:10.1080/0951839890020404.

Faiz, H. (2007). *Transition from college t university: An Australian case study with insights for the Maldives*. Canberra,ACT: University of Canberra.

Falloon, G. (2011). The Science-for-Life Partnerships: Does size really matter, and can ICT help? *Waikato Journal of Education, 16*(1), 21-34.

Felman, S. (1987). *Jacques Lacan and the adventure of insight: Psychoanalysis in contemporary culture*. London, England: Harvard University.

Fenstermacher, G. D. (1994). The knower and the known: The nature of knowledge in research on teaching. *Review of Research in Education, 20*, 3-56.

Fetterman, D. M. (2010). *Ethnography: Step-by-step* (Vol. 17). California, CA: Sage.

Finlay, L. (2002). Negotiating the swamp:The opportunity and challenge of reflexivity in research practice. *Qualitative Research, 2*(2), 209-230. doi:10.1177/146879410200200205

Fisher, D. L. (2003). Using PowerPoint for ESL teaching. *The Internet TESL Journal, 9*(4). Retrieved from http://iteslj.org/.

Flick, U. (2004). Triangulation in qualitative research. In U. Flick, E. v. Kardorff & I. Steinke (Eds.), *A companion to qualitative research* (pp. 178-183). London,England: Sage.

Freeman, S. J. (2011). Ethical Principles Revisited. *Journal of Professional Counseling, Practice, Theory, & Research, 38*(3), 49-61.

Freire, P. (1993). *Pedagogy of the oppressed.* New York,NY: Continuum.

Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Lanham, MD: Rowman & Littlefield.

Freire, P., & Macedo, D. P. (1995). A dialogue: Culture, language, and race. *Harvard Educational Review, 65*(3), 377-403.

Freire, P., Macedo, D. P., & Leach, J. (1999). Pedagogy, culture, language and race: A dialogue. In J. Leach & B. Moon (Eds.), *Learners and pedagogy* (pp. 46-58). London,England: Paul Champman.

Fullan, M., & Hargreaves, A. (1992). *Teacher development and educational change*. London,England: Falmer.

Gallant, G. M. (2000). Professional development for web-based teaching: Overcoming innocence and resistance. *New Directions for Adult and Continuing Education, 2000*(88), 69-78. doi:10.1002/ace.8807.

Galpaya, H. (2008). Telecom regulatory and policy environment in the Maldives: Results and analysis of the 2008 TRE Survey. Retrieved from http://dx.doi.org/10.2139

Garcia, P., & Rose, S. (2007). The influence of technocentric collaboration on preservice teachers' attitudes about technology's role in powerful learning and teaching. *Journal of Technology and Teacher Education, 15*(2), 247-266.

Gardiner, M. Q., & Engler, S. (2012). Semantic holism and the insider–outsider problem. *Religious Studies, 48*(02), 239-255. doi:doi:10.1017/S0034412511000205

Gay, G. (2010a). Acting on beliefs in teacher education for cultural diversity. *Journal of Teacher Education, 61*(1-2), 143-152. doi:10.1177/0022487109347320.

Gay, G. (2010b). *Culturally responsive teaching: Theory, research, and practice* (2nd ed.). New York, NY: Teachers College.

Geertz, C. (1973). *The interpretation of cultures* (Vol. 5019). New York, NY: Basic books.

Gibbs, A. (1997). Focus groups. *Social research update, 19*(8). Retrieved from http://sru.soc.surrey.ac.uk/SRU19.html.

Gilbert, J. (2005). *Catching the knowledge wave? The knowledge society and the future of education*. Wellington, N.Z.: NZCER Press.

Gillham, B. (2010). *Case Study Research Methods*. London,England: Continuum.

Given, L. M. (2008). *The Sage encyclopedia of qualitative research methods* (Vol. 1&2). Los Angeles, CA: Sage Reference Publication.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory; strategies for qualitative research*. Chicago, IL: Aldine Publication.

Glesne, C. (2011). *Becoming qualitative researchers: An introduction*. Boston, MA: Allyn & Bacon.

Go, J. C. (2012). Teaching as goal-less and reflective design: A conversation with Herbert A. Simon and Donald Schön. *Teachers and Teaching, 18*(5), 513-524. doi:10.1080/13540602.2012.709728.

Gobo, G. (2011). Ethnography. In D. Silverman (Ed.), *Qualitative research* (3rd ed., pp. 15-36). London, England: Sage.

Goetz, J. P., & LeCompte, M. D. (1984). *Ethnography and qualitative design in educational research* (Vol. 19). Orlando,FL: Academic Press.

Goodall, J. H. (2003). What is interpretive ethnography? In R. P. Clair (Ed.), *Expressions of ethnography: Novel approaches to qualitative methods* (pp. 55-63). Albany,NY: State Unversity of New York.

Goodwin, A. L., Smith, L., Souto-Manning, M., Cheruvu, R., Tan, M. Y., Reed, R., et al. (2014). What Should Teacher Educators Know and Be Able to Do? Perspectives From Practicing Teacher Educators. *Journal of Teacher Education, 65*(4), 284-302. doi:10.1177/0022487114535266.

Gore, J. (1993). *The struggle for pedagogies: Critical and feminist discourses as regimes of truth*. London,England: Routledge.

Govender, D. W. (2012). A model to predict educators' attitudes towards technology and thus technology adoption. *Africa Education Review, 9*(3), 548-568. doi:10.1080/18146627.2012.741101.

Graham, C., Burgoyne, N., Cantrell, P., Smith, L., Clair, L. S., & Harris, R. (2009). Measuring the TPCK confidence of inservice science teachers. *TechTrends, 53*(5), 70-79.

Grasha, A. F., & Yangarber-Hicks, N. (2000). Integrating Teaching Styles and Learning Styles with Instructional Technology. *College Teaching, 48*(1), 2-10. doi:10.2307/27558972.

Grbich, C. (2013). *Qualitative data analysis: An introduction* (2nd ed.). London, England: Sage.

Greenbaum, T. L. (1998). *The handbook for focus group research* (2nd ed.). Thousand Oaks, CA: Sage Publication.

Greene, M. (2001). Reflections on teaching. In V. Richardson (Ed.), *Handbook of research on teaching* (Vol. 4, pp. 82-89). Washington, D.C: American Educational Research Association.

Grenfell, M. J. (2007). *Pierre Bourdieu: Education and training*. London,England: Continuum.

Griffith, A. I. (1998). Insider/outsider: Epistemological privilege and mothering work. *Human Studies, 21*, 361-376.

Groot, S., Hodgetts, D., Waimarea Nikora, L., & Leggat-Cook, C. (2011). A Māori homeless woman. *Ethnography, 12*(3), 375-397. doi:10.1177/1466138110393794.

Grosseck, G., & Holotescu, C. (2008). Can we use Twitter for educational activities. *4th international scientific conference, eLearning and software for education.* Retrieved from http://www.cblt.soton.ac.uk/multimedia/PDFsMM09/Can%20we%20use%20twitter%20for%20educational%20activities.pdf.

Grossman, P. L. (1990). *The making of a teacher: Teacher knowledge and teacher education*. New York, NY: Teachers College.

Guerrero, I., Gaye, D., Hentschel, J., & Aturupane, H. (2012). *Human capital for a modern society general education in the Maldives: An Evolving Seascape*. Washington,DC. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/10/03/000333037_20121003020650/Rendered/PDF/729930WP0Maldi0IC0discloed010010120.pdf.

Gülbahar, Y. (2008). ICT usage in higher education: A case study on preservice teachers and instructors. *Turkish Online Journal of Educational Technology, 7*(1), 32-37.

Gunter, H. (2004). The purposes and practices of intellectual work: A reply to Galbraith. *Journal of Educational Administration, 42*(1), 29-42.

Guskey, T. R. (1999). *Evaluating professional development*. Thousand Oaks, CA: Corwin.

Guskey, T. R. (2003). Analyzing lists of the characteristics of effective professional development to promote visionary leadership. *NASSP Bulletin, 87*(637), 4-20. doi:10.1177/019263650308763702.

Hamilton, D. G., & McWilliam, E. L. (2001). Ex-centric voices that frame research on teaching. *Handbook Of Research On Teaching (4th Edition)*, 17-43.

Hammersley, M., & Atkinson, P. (1983). *Ethnography: principles in practice.* London, England: Tavistock.

Hammersley, M., & Atkinson, P. (1995). *Ethnography: Principles in practice*. New York,NY: Routledge.

Hammersley, M., & Atkinson, P. (2007). *Ethnography : Principles in practice* (3rd ed.). London,England: Routledge.

Harding, J. (2013). *Qualitative data analysis from start to finish*. Thousand Oaks, CA: Sage.

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education, 41*(4), 393-416.

Harris, J. B., & Hofer, M. J. (2011). Technological pedagogical content knowledge (TPACK) in action: A descriptive study of secondary teachers' curriculum-based, technology-related instructional planning. *Journal of Research on Technology in Education, 43*(3), 211-229.

Hawley, W. D., & Valli, L. (2000). Learner-centered professional development. *Phi Delta Kappa Center for Evaluation, Development, and Research, 27*, 7-10.

Heaven, C., Clegg, J., & Maguire, P. (2006). Transfer of communication skills training from workshop to workplace: The impact of clinical supervision. *Patient education and counseling, 60*(3), 313-325.

Heigham, J., & Croker, R. A. (2009). *Qualitative research in applied linguistics: A practical introduction*. Basingstoke, England: Palgrave Macmillan.

Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). Los Angeles,CA: Sage.

Hew, K., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: Current knowledge gaps and recommendations for future research. *Educational*

Technology Research and Development, 55(3), 223-252. doi:10.1007/s11423-006-9022-5.

Hewitt-Taylor, J. (2002). Inside knowledge: Issues in insider research. *Nursing Standard, 16*(46), 33-35.

Hilgers, M. (2009). Habitus, freedom, and reflexivity. *Theory & Psychology, 19*(6), 728-755. doi:10.1177/0959354309345892.

Hoque, K. E., Samad, R. S. A., Siraj, S., & Ziyadh, A. (2012). The role of ICT in school management of Maldives. *Czesław Kupisiewicz*, 270-282.

Howard, S. K. (2013). Risk-aversion: Understanding teachers' resistance to technology integration. *Technology, Pedagogy and Education, 22*(3), 357-372. doi:10.1080/1475939X.2013.802995.

Howe, K. R. (2003). *Closing methodoligical divides : Toward democratic educational research*. Secaucus, NJ: Kluwer Academic.

Hsu, Y.-C., & Ching, Y.-H. (2011). Microblogging for strengthening a virtual learning community in an online course. *Knowledge Management & E-Learning: An International Journal (KM&EL), 3*(4), 585-598.

Hsu, Y.-C., Ching, Y.-H., & Grabowski, B. (2009). Web 2.0 technologies as cognitive tools of the new media age. In T. WHL & R. Subramaniam (Eds.), *Handbook of research on new media literacy at the K-12 level: Issues and challenges* (pp. 353-371). Hershey, PA: IGI, Global.

Hu, P. J.-H., Clark, T. H., & Ma, W. W. (2003). Examining technology acceptance by school teachers: A longitudinal study. *Information & Management, 41*(2), 227-241.

Hyo-Jeong, S., & Bosung, K. (2009). Learning about problem based learning: Student teachers integrating technology, pedagogy and content knowledge. *Australasian Journal of Educational Technology, 25*(1), 101-116.

Ihmeideh, F. M. (2009). Barriers to the use of technology in Jordanian pre‐school settings. *Technology, Pedagogy and Education, 18*(3), 325-341. doi:10.1080/14759390903255619.

Ikpeze, C. (2007). Small group collaboration in peer-led electronic discourse: An analysis of group dynamics and interactions involving preservice and inservice teachers. *Journal of Technology and Teacher Education, 15*(3), 383-407.

Imants, J., & van Veen, K. (2010). Teacher learning as workplace learning. In E. Baker, B. McGaw & P. Peterson (Eds.), *International Encyclopedia of Education* (pp. 569-574). Oxford,England: Elsevier.

Inan, F., & Lowther, D. (2010). Factors affecting technology integration in K-12 classrooms: A path model. *Educational Technology Research and Development, 58*(2), 137-154. doi:10.1007/s11423-009-9132-y.

Inckle, K. (2010). Telling tales? Using ethnographic fictions to speak embodied 'truth'. *Qualitative Research, 10*(1), 27-47. doi:10.1177/1468794109348681.

Innes, R. A. (2009). "Wait a second. Who are you anyways?": The Insider/outsider debate and American Indian studies. *American Indian Quarterly, 33*(4), 440-461.

Jabareen, Y. (2009). Building a conceptual framework: Philosophy, definitions, and procedures. *International Journal of Qualitative Methods, 4*(8), 49-62.

Jaleel, A. (2013). The status of the coral reefs and the management approaches: The case of the Maldives. *Ocean & Coastal Management, 82*(0), 104-118. doi:http://dx.doi.org/10.1016/j.ocecoaman.2013.05.009.

James, D. (2011). Beginning with Bourdieu in educational research. *British Educational Research Association on-line resource,* Retrieved from https://www.bera.ac.uk/wp-content/uploads/2014/02/Beginning-with-Bourdieu-in-educational-research.pdf.

Janesick, V. J. (2000). The choreography of qualitative research design: Minuets, improvisations, and crystallization. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 379-399). Thousand Oaks: CA: Sage.

Jang, S.-J. (2010). Integrating the interactive whiteboard and peer coaching to develop the TPACK of secondary science teachers. *Computers & Education, 55*(4), 1744-1751.

Jenkins, R. (2000). Categorisation: Identity, social process and epistemology. *Current Sociology, 43*(3), 7-25.

Jenks, C. (1993). *Culture*. Florence, KY: Routledge.

Joas, H., & Knöbl, W. (2011). Between structuralism and theory of practice: The cultural sociology of Pierre Bourdieu. In S. Susen & B. S. Turner (Eds.), *Key Issues in Modern Sociology : Legacy of Pierre Bourdieu: Critical essays*. London,England: Anthem.

Jones, A. (2004). A review of the research literature on barriers to the uptake of ICT by teachers. *June*(1), 1-29. Retrieved from http://dera.ioe.ac.uk/1603/1/becta_2004_barrierstouptake_litrev.pdf.

Jones, A. M. (2003). The use and abuse of PowerPoint in teaching and learning in the life sciences: A personal overview. *Bioscience Education,* (2). Retrieved from http://www.csun.edu/~vceed002/ref/presentation/powerpoint/powerpoint_use_abuse.pdf.

Judson, E. (2006). How teachers integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education, 14*(3), 581-597.

Kamel, S. A. E. R. (2012). *Multigrade education: application and teacher preparation in Egypt*. American University in Cairo, Egypt, Egypt. Retrieved from http://dar.aucegypt.edu/handle/10526/3113.

Kansanen, P., Tirri, K., & Meri, M. (2000). *Teachers' pedagogical thinking : Theoretical landscapes, practical challenges*. New York, NY: Peter Lang Publishing.

Kanuha, V. K. (2000). "Being" native versus "going native": Conducting social work research as an insider. *Social Work, 45*(5), 439-447.

Keengwe, J., Kidd, T., & Kyei-Blankson, L. (2009). Faculty and technology: Implications for faculty training and technology leadership. *Journal of Science Education and Technology, 18*(1), 23-28. doi:10.1007/s10956-008-9126-2.

Kim, H. W. (2011). Research with children: Challenges and dilemmas as an insider researcher. *Early Child Development and Care, 182*(2), 263-276. doi:10.1080/03004430.2011.555818.

Kinaanath, M. (2013). *The use of information and communication technology in teaching and learning within higher education sector of a small island developing state: The case of the Maldives*.Wellington, New Zealand: Victoria University. Retrieved from http://hdl.handle.net/10063/2977.

Kirschner, P., & Davis, N. (2003). Pedagogic benchmarks for information and communications technology in teacher education. *Technology, Pedagogy and Education, 12*(1), 125-147. doi:10.1080/14759390300200149.

Kisiel, J. (2013). Introducing future teachers to science beyond the classroom. *Journal of Science Teacher Education, 24*(1), 67-91. doi:10.1007/s10972-012-9288-x.

Kitzinger, J. (1995). Qualitative research: Introducing focus groups. *British medical journal, 311*(7000), 299-302.

Knowles, M. M. S. (1970). *The modern practice of adult education* (Vol. 41). New York,NY: Association Press.

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education & Information Technologies, 9*(1), 60-70.

Koehler, M. J., & Mishra, P. (2005a). Teachers learning technology by design. *Journal of Computing in Teacher Education, 21*(3), 94-102.

Koehler, M. J., & Mishra, P. (2005b). What happens when teachers design educational technology? The development of technological pedagogical content knowledge *Journal of Educational Computing Research, 32*(2), 131-152.

Koehler, M. J., & Mishra, P. (2008). Introducing TPCK. In AACTE (Ed.), *Handbook of technological pedagogical content knowledge (TPCK) for educators* (pp. 3-29). New York,NY: Routledge/Taylor & Francis Group.

Koehler, M. J., Mishra, P., & Yahya, K. (2007). Tracing the development of teacher knowledge in a design seminar: Integrating content, pedagogy and technology. *Computers & Education, 49*(3), 740-762. doi:10.1016/j.compedu.2005.11.012

Koh, J., Chai, C., & Tsai, C.-C. (2013). Examining practicing teachers' perceptions of technological pedagogical content knowledge (TPACK) pathways: A structural equation modeling approach. *Instructional Science, 41*(4), 793-809. doi:10.1007/s11251-012-9249-y.

Koh, J. H. L., Chai, C. S., & Tsai, C. C. (2010). Examining the technological pedagogical content knowledge of Singapore pre-service teachers with a large-scale survey. *Journal of Computer Assisted Learning, 26*(6), 563-573. doi:10.1111/j.1365-2729.2010.00372.x.

Koh, J. H. L., & Divaharan, S. (2011). Developing pre-service teachers' technology integration expertise through the TPACK-developing instructional model. *Journal of Educational Computing Research, 44*(1), 35-58. doi:10.2190/EC.44.1.c.

Kosnik, C. (2007). Still the same yet different: Enduring values and commitments in my work as a teacher and teacher educator. In T. Russell & J. Loughran (Eds.), *Enacting a pedagogy of teacher education: Values, relationships and practices* (pp. 16-31). New York, NY: Routledge.

Kralik, D. (2005). Reflexivity: A practical guide for researchers in health and social sciences. *Journal of Advanced Nursing, 50*(2), 227-227. doi:10.1111/j.1365-2648.2005.03416_2.x.

Kramer, S. R., & Benson, S. A. (2013). Changing faculty use of technology: One cohort at a time. *Journal of Applied Research in Higher Education, 5*(2), 202-221.

Kukari, A. J. (2004). Cultural and religious experiences: Do they define teaching and learning for preservice teachers prior to teacher education? *Asia-Pacific Journal of Teacher Education, 32*(2), 95-110. doi:10.1080/1359866042000234205.

Kurt, S. (2013). Examining teachers' use of computer-based technologies: A case study. *Education and Information Technologies, 18*(4), 557-570. doi:10.1007/s10639-012-9199-7.

Lai, H.-M., & Chen, C.-P. (2011). Factors influencing secondary school teachers' adoption of teaching blogs. *Computers & Education, 56*(4), 948-960. doi:http://dx.doi.org/10.1016/j.compedu.2010.11.010.

Lamaison, P., & Bourdieu, P. (1986). From Rules to Strategies: An Interview with Pierre Bourdieu. *Cultural Anthropology, 1*(1), 110-120.

Latheef, M., & Gupta, A. (2007). Schooling in Maldives. In A. Gupta (Ed.), *Going to school in South Asia* (pp. 112-125). Santa Barbara, CA: Greewood Press.

Leeuw, E. d. (2008). Self-administrated questionnaires and standardised interviews. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The Sage handbook of social research methods* (pp. 313-327). Los Angeles, CA: Sage.

Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice: A guide for social science students and researchers* (pp. 138-169). London,England: Sage.

Levin, T., & Wadmany, R. (2008). Teachers' views on factors affecting effective integration of information technology in the classroom: Developmental scenery. *Journal of Technology and Teacher Education, 16*(2), 233-263.

Levinson, M. P. (2010). Accountability to research participants: Unresolved dilemmas and unravelling ethics. *Ethnography & Education, 5*(2), 193-207. doi:10.1080/17457823.2010.493407.

Lewis, S., & Russell, A. (2011). Being embedded: A way forward for ethnographic research. *Ethnography, 12*(3), 398-416. doi:10.1177/1466138110393786.

Li, G. (2013). Promoting teachers of culturally and linguistically diverse (CLD) students as change agents: A cultural approach to professional learning. *Theory Into Practice, 52*(2), 136-143. doi:10.1080/00405841.2013.770331.

Lim, C. P., & Oakley, G. (2013). Information and communication technologies (ICT) in primary education. In L. Y. Tay & C. P. Lim (Eds.), *Creating Holistic Technology-Enhanced Learning Experiences* (pp. 1-18). Singapore: Sense Publisher.

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (4th ed., pp. 97-128). Thousand Oaks,CA: Sage.

Liu, S.-H. (2011). Factors related to pedagogical beliefs of teachers and technology integration. *Computers & Education, 56*(4), 1012-1022. doi:http://dx.doi.org/10.1016/j.compedu.2010.12.001.

Livingstone, S. (2012). Critical reflections on the benefits of ICT in education. *Oxford Review of Education, 38*(1), 9-24. doi:10.1080/03054985.2011.577938

Liyanage, I. (2012). Critical pedagogy in ESL/EFL teaching in South Asia In K. Sung & R. Pederson (Eds.), *Critical ELT Practices in Asia: Key issues, practices, and possibilities* (pp. 137-151). Netherlands, NL: Sense Publisher.

Liyanage, I., & Bartlett, B. J. (2008). Contextually responsive transfer: Perceptions of NNES on an ESL/EFL teacher training programme. *Teaching and Teacher Education, 24*(7), 1827-1836. doi:http://dx.doi.org/10.1016/j.tate.2008.02.009.

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago, IL: University of Chicago.

Loughran, J. (1997). *Teaching about teaching : Purpose, passion and pedagogy in teacher education*. London, England: Routledge.

Loughran, J. (2004). A history and context of self-study of teaching and teacher education practices. In J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.),

International handbook of self-study of teaching and teacher education practices (pp. 7-39). Dordrecht,Netherlands: Springer.

Loughran, J. (2006). *Developing a pedagogy of teacher education: Understanding teaching & learning about teaching*. New York,NY: Routledge.

Loughran, J. (2007). Enacting a pedagogy of teacher education. In T. Russell & J. Loughran (Eds.), *Enacting a pedagogy of teacher education* (pp. 1-15). London, England: Routledge.

Loughran, J. (2010a). A pedagogy of teacher education. In P. Peterson, E. Baker & B. McGaw (Eds.), *International Encyclopedia of Education* (pp. 587-591). Oxford,England: Elsevier.

Loughran, J. (2010b). *What expert teachers do : Enhancing professional knowledge for classroom practice*. Crows Nest, N.S.W.: Allen & Unwin.

Loughran, J. (2011). On becoming a teacher educator. *Journal of Education for Teaching, 37*(3), 279-291. doi:10.1080/02607476.2011.588016.

Loughran, J. (2014). Professionally developing as a teacher educator. *Journal of Teacher Education, 65*(4), 271-283. doi:10.1177/0022487114533386.

Loughran, J., & Northfield, J. (1996). *Opening the classroom door: Teacher, researcher, learner*. London,England: Routledge.

Lovell, T. (2000). Thinking feminism with and against Bourdieu. *Feminist Theory, 1*(1), 11-32. doi:10.1177/14647000022229047.

Mabry, L. (2008). Case study in social research. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The Sage handbook of social research methods* (pp. 214, 227). Los Angeles, CA: Sage.

Macfarlane, B. (2010). Introduction: The uncertainty of wisdom. In M. Savin-Baden & C. H. Major (Eds.), *New approaches to qualitative research: Wisdom and uncertainty* (pp. 1-7). New York, NY: Routledge.

Malderez, A. (2003). Observation. *English Language Teachers Journal*, 57(2), 179-181.

Mariya, M. (2012). *'I don't learn at school, so I take tuition': An ethnographic study of classroom practices and private tuition settings in the Maldives*. Palmerston North, New Zealand: Massey University.

Mason, J. (2002). *Researching your own practice: The discipline of noticing*. London,England: RoutledgeFalmer.

Mason, T. (2014). *Transforming teaching: Implementing mobile technology learning strategies in serving students with visual impairments*.Texas, TX: Tech University.

Matthew, K., Stephens, E., Callaway, R., Letendre, C., & Kimbell-Lopez, K. (2002). Adoption of information communication technology by teacher educators: One-

on-one coaching. *Journal of Information Techology for Teacher Education, 11*(1), 45-62. doi:10.1080/14759390200200122.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. London, England: Sage.

Mayer, R. E. (2002). Rote versus meaningful learning. *Theory into practice, 41*(4), 226-232.

McLaren, P. (1999). Research news and comment: A pedagogy of possibility: Reflecting upon Paulo Freire's politics of education: In Memory of Paulo Freire. *Educational Researcher, 28*(2), 49-56. doi:10.3102/0013189x028002049

Megahed, N., Ginsburg, M., Abdellah, A., & Zohry, A. (2008). *Active-learning pedagogies as a reform initiative: The case of Egypt*. Washington, DC: American Institute for Research.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco,CA: Jossey-Bass.

Mezirow, J. (1991). Misconceptions about transformation theory: A note in reply to L. Ekpenyong. *International Journal of Lifelong Education, 10*(2), 159-160. doi:10.1080/0260137910100206.

Miller, J., & Glassner, B. (2011). The 'inside'and the 'outside': Finding realities in interviews. In D. Silverman (Ed.), *Qualitative research* (pp. 99-112). London,England: Sage.

Miller, S. M. (1952). The participant observer and "over-rapport". *American Sociological Review, 17*(1), 97-99.

Mills, C. W. (1959). *The sociological imagination*. New York,NY: Oxford University Press.

Minichiello, V., & Kottler, J. A. (2010). *Qualitative journeys : Student and mentor experiences with research*. Los Angeles,CA: Sage.

Ministry of Education. (2007). *The New Zealand curriculum for English-medium teaching and learning in years 1-13*. Wellington, New Zealand: Learning Media Ltd.

Ministry of Education, Maldives. (2010). Maldives school information at a glance 2010. Male', Maldives: Author.

Ministry of Education, Maldives. (2015). National curriculum framework. from Minstry of Education http://www.moe.gov.mv/en/page.

Minges, M., & Gray, V. (2004). Information and communication technology in the atolls: Maldives case study. Retrieved from https://www.itu.int/ITU-D/ict/cs/maldives/material/CS_MDV.pdf

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.

Retrieved from http://punya.educ.msu.edu/publications/journal_articles/mishra-koehler-tcr2006.pdf.

Mohamed, N. (2006). *An exploratory study of the interplay between teachers' beliefs, instructional practices and professional development*. Auckland, New Zealand:University of Auckland.

Moll, L. C. (2001). Through the mediation of others: Vygotskian research on teaching. In V. Richardson (Ed.), *Handbook of research on teaching* (pp. 111-129). Washington, D.C: American Educational Research Association.

Moore, A. (2000). *Teaching and learning : Pedagogy, curriculum and culture*. London,England: Routledge.

Moore, B. (2007). Original sin and insider research. *Action Research, 5*(1), 27-39. doi:10.1177/1476750307072874.

Morgan, D. L. (1988). *Focus groups as qualitative research*. Beverly Hills, CA: Sage.

Morgan, D. L. (1998). *The focus group guidebook*. Thousand Oaks,CA: Sage Publication.

Morgan, M., Gibbs, S., Maxwell, K., & Britten, N. (2002). Hearing children's voices: Methodological issues in conducting focus groups with children aged 7-11 years. *Qualitative Research, 2*(1), 5-20.

Mouza, C. (2011). Promoting urban teachers' understanding of technology, content, and pedagogy in the context of case development. *Journal of Research on Technology in Education, 44*(1), 1-29. doi:10.1080/15391523.2011.10782577.

Naidoo, R. (2004). Fields and institutional strategy: Bourdieu on the Relationship between Higher Education, Inequality and Society. *British Journal of Sociology of Education, 25*(4), 457-471.

Nazeer, A. (2006). *Teaching economics at secondary school level in the Maldives: A cooperative learning model*. Hamilton, New Zealand: The University of Waikato.

Niess, M. L. (1999). Collaborative inquiry in science, math, and technology. *Mathematics Teaching in the Middle School, 5*(4), 266-267.

Niess, M. L. (2005). Preparing teachers to teach science and mathematics with technology: Developing a technology pedagogical content knowledge. *Teaching & Teacher Education, 21*(5), 509-523. doi:10.1016/j.tate.2005.03.006.

Niess, M. L. (2011). Investigating TPACK: Knowledge growth in teaching with technology. *Journal of Educational Computing Research, 44*(3), 299-317. doi:10.2190/EC.44.3.c.

Niess, M. L., van Zee, E. H., & Gillow-Wiles, H. (2011). Knowledge growth in teaching mathematics/science with spreadsheets: Moving PCK to TPACK through online professional development. *Journal of Digital Learning in Teacher Education, 27*(2), 42-52.

Noordeen, M. (2009). *Innovative practices in TVET towards education for sustainable development*. Paper presented at the International experts meeting on "Reorienting TVET policy towards education for sustainable development" 26-29th August 2009, Berlin, Germany. Retrieved from http://www.unevoc.unesco.org/pubsdir.php?akt=id&st=adv&id=978-3-939394-54-9&lg=en.

Ntseane, P. G. (2009). The ethics of the researcher-subject relationship: Experience from the field. In D. M. Mertens & P. E. Ginsberg (Eds.), *The handbook of social research ethics* (pp. 295-307). Thousand Oaks,CA: Sage.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research, 81*(3), 376-407. doi:10.3102/0034654311413609.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332. doi:10.3102/00346543062003307.

Parker, I. (2005). *Qualitative psychology: Introducing radical research*. New York, NY: McGraw-Hill International.

Patton, M. G. (2002). *Qualitative research and evaluation methods* (3rd ed.). London,England: Sage.

Paulus, T. M., Lester, J. N., & Britt, V. G. (2013). Constructing hopes and fears around technology: A discourse analysis of introductory qualitative research texts. *Qualitative Inquiry, 19*(9), 639-651. doi:10.1177/1077800413500929.

Peek, L., & Fothergill, A. (2009). Using focus groups: Lessons from studying daycare centers, 9/11, and Hurricane Katrina. *Qualitative Research, 9*(1), 31-59. doi:10.1177/1468794108098029.

Perkins, R. (2012). Are most investments for technology inschools wasted? *TechTrends, 56*(1), 10-11. doi:http://dx.doi.org/10.1007/s11528-011-0548-y.

Pierson, M., & Borthwick, A. (2010). Framing the assessment of educational technology professional development in a culture of learning. *Journal of Digital Learning in Teacher Education, 26*(4), 126-131.

Pierson, M. E. (2001). Technology integration practice as a function of pedagogical expertise. *Journal of Research on Computing in Education, 33*(4), 413-430.

Pischetola, M. (2011). Digital media and learning evolution: A research on sustainable local empowerment. *Global Media Journal, 11*(18), 1-14.

Polly, D. (2011). Developing teachers' technological, pedagogical, and content knowledge (TPACK) through mathematics professional development. *International Journal for Technology in Mathematics Education, 18*(2), 83-96.

Powell, R. A., & Single, H. M. (1996). Focus groups. *International Journal for Quality in Health Care, 8*(5), 499-504. doi:10.1093/intqhc/8.5.499.

Pritchard, A. (2007). *Effective teaching with internet technologies: Pedagogy and practice*. London,England: Sage.

Puentedura, R. R. (2012). SAMR: Guiding Development. *Tillgänglig på Internet*, 04-15. Retrieved from http://www.hippasus.com/rrpweblog/archives/2012/01/19/SAMR_GuidingDevelopment.pdf.

Qiyun, W., & Huay Lit, W. (2007). Systematic planning for ICT integration in topic learning. *Journal of Educational Technology & Society, 10*(1), 148-156.

Rahman, H. (2010). *e-governance at the grass roots: SAARC context*. Paper presented at the Proceedings of the 4th International Conference on Theory and Practice of Electronic Governance, Beijing, China.

Randi, J., & Corno, L. (2007). Theory into practice: A matter of transfer. *Theory Into Practice, 46*(4), 334-342. doi:10.1080/00405840701593923.

Raouf, J. B., Naser, I. S., & Jassim, B. K. (2012). Determinants of e-Learning implementation success in the Iraqi MoHE. *Eng & Tech. Journal, 30*(4), 659-671.

Reay, D. (1997). The double-bind of the "working class" feminist academic: The success of failure or the failure of success. In C. Zmroczek & P. Mahony (Eds.), *Class matters: Working class women s perspectives on social class* (pp. 18-29). London,England: Taylor & Francis.

Reay, D. (2004). 'It's all becoming a habitus': Beyond the habitual use of habitus in educational research. *British Journal of Sociology of Education, 25*(4), 431-444. doi:10.1080/0142569042000236934.

Reddi, U. V., & Sinha, M. V. (2004). Maldives: ICT Use in Education. Retrieved from http://www2.unescobkk.org/elib/publications/metasurvey/3country_south.pdf

Reeves, S., Kuper, A., & Hodges, B. D. (2008). Qualitative research methodologies: Ethnography. *British Medical Journal, 337*(7668), 512-514. doi:10.2307/20510696.

Richards, L. (2009). *Handling qualitative data: A practical guide* (2nd ed.). London,England: Sage.

Richardson, L. (1997). *Fields of play: Constructing an academic life*. New Brunswick, NY: Rutgers University.

Richardson, L. (2005). Writing: A method of inquiry. In N. K. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 959-978). Thousand Oaks,CA: Sage.

Richardson, M. (2001). *Experience of culture*. London,England: Sage.

Riyaz, A., Rijal, N., Shrestha, S. R., & Nashfa, F. (2012). Bridging the information divide of the Maldives through library automation and digitisation. Retrieved from

http://niteshrijal.com.np/pub/bridging-the-information-divide-of-the-maldives-through-library-automation-and-digitisation.pdf.

Riyaz, A., & Smith, K. (2012). Information culture in the Maldives. *Library and Information Science, 2*, 173-208.

Roberts, K. A., & Wilson, R. W. (2002). ICT and the research process: Issues around the compatibility of technology with qualitative data analysis. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, 3*(2). Retrieved from http://ezproxy.waikato.ac.nz/login?url=http://search.proquest.com.ezproxy.waikato.ac.nz/docview/867760007?accountid=17287.

Roland, L. (2002). Pierre Bourdieu (1930-2002): A Sociologist in Action. *Economic and Political Weekly, 37*(11), 1019-1021.

Roth, J., Shani, A. B., & Leary, M. M. (2007). Insider action research. *Action Research, 5*(1), 41-60. doi:10.1177/1476750307072875.

Russel, J. D., & Sorge, D. (1994). Improving technology implementation in grades 5-12 with the ASSURE model. *T H E Journal, 21*(9), 66-70.

Russell, M., Bebell, D., O'Dwyer, L., & O'Connor, K. (2003). Examining teacher technology use implications for preservice and inservice teacher preparation. *Journal of Teacher Education, 54*(4), 297-310.

Ryan, J. (2014). Uncovering the hidden voice: Can grounded theory capture the views of a minority group? *Qualitative Research, 14*(5), 549-566. doi:10.1177/1468794112473494.

Sabki, A. i. A., & Hardaker, G. (2012). The madrasah concept of Islamic pedagogy. *Educational Review*, 1-15. doi:10.1080/00131911.2012.668873.

Saeed, S., & Moreira, M. A. (2010). Learning from first time eLearning experiences for continuous professional development of school leaders in the Maldives: A case study. *Turkish Online Journal of Distance Education-TOJDE, 11*(4). Retrieved from https://tojde.anadolu.edu.tr/tojde40/articles/article_7.htm.

Sahin, I. (2011). Development of survey of technological pedagogical and content knowledge (TPACK). *Turkish Online Journal of Educational Technology, 10*(1), 97-105.

Saldana, J. (2011). *Fundamentals of qualitative research*. Cary, NC: Oxford University Press.

Salomon, G. (1991). Transcending the qualitative-quantitative debate: The analytic and systemic approaches to educational research. *Educational Researcher, 20*(6), 10-18. doi:10.3102/0013189x020006010.

Samman, K. (2005). Towards a non-essentialist pedagogy of "Islam". *Teaching Theology & Religion, 8*(3), 164-171. doi:10.1111/j.1467-9647.2005.00240.x.

Schildwacht, M. M. C. (2012). *Learning to notice: Teachers coaching teachers with video feedback*. Amsterdam, Netherlands: Universiteit of Twente.

Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education, 42*(2), 123-149.

Schmidt, M. (1997). Habitus revisited. *The American Behavioral Scientist, 40*(4), 444-453.

Schön, D. A. (1987). *Educating the reflective practitioner : Toward a new design for teaching and learning in the professions*. San Francisco,CA: Jossey-Bass.

Scott, S. M., Chovanec, D. M., & Young, B. (1994). Philosophy-in-action in university teaching. *Canadian Journal of Higher Education, 24*(3), 1-25.

Seidel, J. (1998). Qualitative data analysis. Retrieved from ftp://ftp.qualisresearch.com/pub/qda.pdf.

Serrant-Green, L. (2007). Ethnographic research. *Nurse Researcher, 14*(3), 4-6.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher, 27*(2), 4-13. doi:10.3102/0013189x027002004.

Shareef, K. (2008). *Mentoring relationships for collaborative professional development practices in Maldivian primary schools*. Hamilton, New Zealand:The University of Waikato. Retrieved from http://hdl.handle.net/10289/2424.

Shareef, M. (2010). *Environmental education in the Maldives: The implementation of inquiry-based learning at the primary level*. Auckland, New Zealand: Unitec Institute of Technology.

Shulman, L. S. (1986). Those who understand: Knolwedge growth in teaching. *Educational Researcher, 15*(2), 4-14.

Sipilä, K. (2010). The impact of laptop provision on teacher attitudes towards ICT. *Technology, Pedagogy and Education, 19*(1), 3-16. doi:10.1080/14759390903579257.

Smithson, J. (2008). Focus groups. In P. Alasuutari, L. Bickman & J. Brannen (Eds.), *The SAGE handbook of social research methods* (pp. 357-371). Los Angeles,CA: Sage.

Somekh, B. (2008). Factors affecting teachers' pedagogical adoption of ICT. In J. Voogt & G. Knezek (Eds.), *International Handbook of Information Technology in Primary and Secondary Education* (Vol. 20, pp. 449-460). New York, NY: Springer.

Spindler, G. D. (Ed.). (1987). *Issues and applications in ethnographic methods: Editorial introduction*. London,England: Lawrence Erlbaum.

Sprague, J. (2010). Seeing through science: Epistemologies. In W. Luttrell (Ed.), *Qualitative educational research:Readings in reflexive methodology and transformative practice* (pp. 78-94). New York,NY: Routledge.

Sprankle, B. (2012). A plan for technology integration *Tech & Learning, 32*(10), 38-40.

Srivastava, G. (2011). Conformity and contestation: Knowing neighbours a study of schooling processes in the Republic of Maldives. *Social Change, 41*(3), 413-425. doi:10.1177/004908571104100305.

Stake, R. E. (2010). *Qualitative research: Studying how things work*. New York,NY: Guilford Press.

Sterne, J. (2003). Bourdieu, technique and technology. *Cultural Studies, 17*(3/4), 367-389. doi:10.1080/0950238032000083863.

Stevenson, L. (2008). *Personalized learning in a web 2.0 environment*. Hamilton, New Zealand: The University of Waikato.

Strauss, A. L. (1987). *Qualitative analysis for social scientists*. New York,NY: Cambridge University Press.

Suter, W. N. (2006). *Introduction to educational research: A critical thinking approach*. Thousand Oaks, CA: Sage.

Swan, K., & Hofer, M. (2011). In search of technological pedagogical content knowledge: Teachers' initial foray into podcasting in economics. *Journal of Research on Technology in Education, 44*(1), 75-98.

Syh-Jong, J., & Meng-Fang, T. (2013). Exploring the TPACK of Taiwanese secondary school science teachers using a new contextualized TPACK model. *Australasian Journal of Educational Technology, 29*(4), 566-580.

Takeda, A. (2012). Reflexivity: Unmarried Japanese male interviewing married Japanese women about international marriage. *Qualitative Research, 13*(3), 285-298. doi:10.1177/1468794112442523.

Talbani, A. (1996). Pedagogy, power, and discourse: Transformation of Islamic education. *Comparative Education Review, 40*(1), 66-82. doi:10.2307/1188968

Tamboukou, M. (2014). Archival research: unravelling space/time/matter entanglements and fragments. *Qualitative Research, 14*(5), 617-633. doi:10.1177/1468794113490719

Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers & Education, 52*(2), 302-312. doi:http://dx.doi.org/10.1016/j.compedu.2008.08.006.

The Maldives National University. (2015). *The university.* Retrieved from http://www.mnu.edu.mv/

Tibawi, A. L. (1972). *Islamic education: Its traditions and modernization into the Arab national systems*. London, England: Luzac.

Timperley, H. (2008). *Teacher professional learning and development* (Vol. 18). Perth, Australia: International Academy of Education and International Bureau of Education.

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education.

Tinning, R. (2008). Pedagogy, sport pedagogy, and the field of kinesiology. *Quest, 60*(3), 405-424. doi:10.1080/00336297.2008.10483589.

Toure, K., Diarra, M. L., Karsenti, T., & Tchameni-Ngama, S. (2008). *ICT and changing mindsets in education*. Bamenda, CMR: Langaa.

Ugelvik, T. (2012). Prisoners and their victims: Techniques of neutralization, techniques of the self. *Ethnography, 13*(3), 259-277. doi:10.1177/1466138111435447

UNESCO. (2006/2007). *World data on education: Maldives*. Paris, France. Retrieved from http://www.ibe.unesco.org/en/services/online-materials/world-data-on-education.html.

UNESCO. (2010/2011). *World data on education: Maldives*. Paris, France. Retrieved from http://www.ibe.unesco.org/en/services/online-materials/world-data-on-education.html.

van Alphen, K., van Sark, W. G. J. H. M., & Hekkert, M. P. (2007). Renewable energy technologies in the Maldives: Determining the potential. *Renewable and Sustainable Energy Reviews, 11*(8), 1650-1674. doi:http://dx.doi.org/10.1016/j.rser.2006.02.001.

Van Driel, J. H., & Berry, A. (2012). Teacher professional development focusing on pedagogical content knowledge. *Educational Researcher, 41*(1), 26-28. doi:10.3102/0013189x11431010.

van Heugten, K. (2004). Managing insider research. *Qualitative Social Work, 3*(2), 203-219. doi:10.1177/1473325004043386.

Van Maanen, J. (2011). *Tales of the field: On writing ethnography* (2nd ed.). Chicago,IL: University of Chicago.

Van Manen, M. (1999). The language of pedagogy and the primacy of student experience. In J. Loughran (Ed.), *Researching teaching: Methodologies and practices for Understanding Pedagogy* (pp. 13-27). London,England: Routledge.

Victoria, M. P. (2011). Ethical dimensions of shared ethnicity, language, and immigration experience. *TESL Canada Journal, 28*(5), 72-79.

Vygotsky, L. (Ed.). (1978). *Mind in society: The development of higher psychological processes*. London, England: Harvard University Press.

Waghid, Y. (1997). Islamic educational institutions: Can the heritage be sustained? *American Journal of Islamic Social Sciences, 14*, 35-50.

Walford, G. (2009). For ethnography. *Ethnography & Education, 4*(3), 271-282. doi:10.1080/17457820903170093.

Webb, J., Schirato, T., & Danaher, G. (2002). *Understanding Bourdieu*. Crows Nest, N.S.W.: Allen & Unwin.

Webb, M. (2013). Changing models for researching pedagogy with information and communications technologies. *Journal of Computer Assisted Learning, 29*(1), 53-67. doi:10.1111/j.1365-2729.2011.00465.x.

Wiersma, W. (1986). *Research methods in education* (4th ed.). Boston,MA: Allyn and Bacon.

Wiles, R., Crow, G., Heath, S., & Charles, V. (2008). The management of confidentiality and anonymity in social research. *International Journal of Social Research Methodology, 11*(5), 417-428. doi:10.1080/13645570701622231.

Williams, G. M. (2006). *Cultural, professional and personal influences on the teaching identity development of international teaching assistants*. Athens,GA: University of Georgia.

Williams, J. (2014). Teacher educator professional learning in the third space: Implications for identity and practice. *Journal of Teacher Education, 65*(4), 315-326. doi:10.1177/0022487114533128.

Wolcott, H. F. (1987). *On ethnographic intent*. London,England: Lawrence Erlbaum.

Wong, M. (2005). A crosscultural comparison of teachers' expressed beliefs about music education and their observed practices in classroom music teaching. *Teachers and Teaching, 11*(4), 397-418. doi:10.1080/13450600500137182.

Wood, P. (1986). *Inside school: Ethnography in edcuational research*. New York, NY: Routledge.

Woodward, K. (2008). Hanging out and hanging about: Insider/outsider research in the sport of boxing. *Ethnography, 9*(4), 536-560. doi:10.1177/1466138108096991

Wright, N. (2007). Building literacy communities of practice across subject disciplines in secondary schools. *Language and Education, 21*(5), 420-433. doi:10.2167/le800.0.

Wright, N. (2010). Twittering in teacher education: Reflecting on practicum experiences. *Open Learning: The Journal of Open, Distance and e-Learning, 25*(3), 259-265. doi:10.1080/02680513.2010.512102.

Wright, N. (2012). Pedagogy, continuance theory and mobile devices: Findings from a New Zealand case study. In Marcus Specht, Mike Sharples & J. Multisilta (Eds.), *mLearn 2012* (pp. 284-288). Helsinki, Finland: CEUR-WS.

Wright, N. (2014). A case for adapting and applying continuance theory to education: Understanding the role of student feedback in motivating teachers to persist with

including digital technologies in learning. *Teachers and Teaching, 21*(4), 459-471. doi:10.1080/13540602.2014.969105.

Yasir, A. (2004). Creating infrastructures and partnerships for lifelong learning in the Republic of Maldives. In M. Singh (Ed.), *Institutionalising lifelong learning: Creating conductive environments for adult learning in the Asian context* (pp. 128-135). Hamburg,Germany: UNESCO.

Yelland, N. (2005). The future is now: A review of the literature on the use of computers in early childhood education (1994-2004). *AACE Journal, 13*(3), 201-232.

Yi, M. Y., & Hwang, Y. (2003). Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies, 59*(4), 431-449. doi:http://dx.doi.org/10.1016/S1071-5819(03)00114-9.

Yu, K. (2008). Confidentiality revisited. *Journal of Academic Ethics, 6*(2), 161-172. doi:10.1007/s10805-008-9061-0.

Zisow, M. A. (2000). Teaching style and technology. *TechTrends, 44*(4), 36-38.

Zuhyle, S. (2012). ICT sector performance review for Maldives. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2144042.

Appendices

Appendix A: Data Collection Schedule

Method	Participants	Date	Time
Interviews	Raufa	9 January 2012	9:00 am – 10:00 am
	Meera	11 January 2012	10:00 am- 11:00 am
	Nisha	12 January 2012	1:00 pm -2:00 pm
	Haula	12 January 2012	2:00 pm - 3:00 pm
	Alia	16 January 2012	11:00 am- 12:00 pm
	Shaina	17 January 2012	1:00 pm -2:00 pm
	Faiha	18 January 2012	1:30 pm - 2:30 pm
	Zeena	19 January 2012	9:00 am - 10:00 am
	Lamha	24 January 2012	1:00 pm -2:00 pm
	Yusra	25 January 2012	3:30 pm- 4:30 pm
	Dhimna	26 January 2012	10:00 am - 11:00 am
Observations	Faiha	1 February 2012	10:00 am to 11:30 am
	Meera	2 February 2012	10:00 am to 11:30 am
	Nisha	6 February 2012	1:00 pm to 3:00 pm
	Haula	6 February 2012	10:00 am to 11:30 am
	Shaina	7 February 2012	1:00 pm to 2:30 pm
	Yusra	7 February 2012	3:00 pm to 4:30 pm
Focus groups	Meera & Haula	7 January 2013	9:00 am- 10:00am
	Alia& Shaina	13 January 2013	9:00 am- 10:00am
	Faiha & Zeena	22 January 2013	9:00 am - 10:00pm
	Raufa & Nisha	29 January 2013	11:00 pm- 12:00 pm
	Lamha &Yusra	29 January 2013	1:30pm - 2:30 pm
Follow-up interviews	Meera	10 April 2013	6:30 pm - 7:30 pm
	Nisha	22 April 2013	2:00 pm to 3:00 pm
	Haula	27 April 2013	3:30 pm to 4:30 pm
	Alia	29 April 2013	Written responses
	Shaina	30 April 2013	Written responses
Hanging out approach	1st phase	2 to 26 Jan. 2012 (4weeks)	5working days per week (6-7 hours/day)
	2nd phase	27 Jan. to 8 Feb. 2012 (2weeks)	
	3rd phase	2 Jan. to 4 Feb. 2013 (5weeks)	

Appendix B: Interview Questions

Interviews will begin with conversation prompts. The further prompts may be used if clarification is needed.

Background

Tell me about what you know about ICT:

Prompts: meaning of term; relationship to learning

Tell me about your experiences of using ICT:

Prompts: first time: difficulties, impressions, what it led to; subsequent uses: new tools, PD, ideas about what you need; professional work vs personal use…

Tell me about your favourite ICT tool

Prompts: reasons, any links to professional practices?

Use of ICT

Tell about the use of ICT in your teaching:

Prompts: How and when it's used (teaching/learning/preparing materials/assessments); effects if any on pedagogical practices; how you know students' views about the use of ICT tools for learning purposes; extent to which you or students use the tools; barriers;….

Tell me what you think of the term e-learning:

Prompts: same as or different from ICT?... reasons; any ideas about international views on either term? Any ideas/views about effects on learning/learners/pedagogical practices?....

We have many ICT facilities/tools. Tell me about what you use:

Prompts: How used; how you found out they existed; any PD; any collaboration with other staff about using such tools; any research on effects on learning; advantages/ disadvantages

Social networking, distance tools (like Moodle), Web 2.0 and mobile tools are being used in learning contexts internationally. What do you think about that for our programmes, and to what extent might these be useful? (**Prompts:** relationship to learning, specific learning theories, how they might be used, how the institution could support this….

Tell me about the ICT tool(s) you use most in your teaching:

Prompts: what, how used, why, links to learning; any changes to how you teach as a result; any changes to student engagement etc….

Tell me about what your ideal teaching space will look like in 5 years' time. What tools will it have in it? Tell me about any technology goals you have for your students. What should they know, be able to do and understand by the time they graduate as teachers? **Prompts:** What, why?

Appendix C: Observation Guidelines

During observation I will be making notes about the following

- How the teacher uses ICT
- How the student responds when the teacher uses it/whether or not teacher let students use it or not
- What kind of pedagogical orientation noticed
- What are the characteristics of the physical classroom geography (Facilities, location of technologies, quality and quantity)

Appendix D: Focus Group Discussion Questions

Tell me what ICT mean to you in your context? Prompts: What are the available facilities in your work setting, how do you use them

Tell me what teaching and learning mean to you? Prompts: Does the meaning change when ICT is used? If yes or no examples of how

Is there any sort of relationship between the way you teach and the beliefs that are brought from the Islamic principles (for example as Muslims we need to learn heaps of things through rote learning without understanding them (recitation of *Qur'an* or recitations of prayers)? In our religious practice and learning they are very much related to traditional teaching in our culture? Do you think it could influence the way you teach and use of ICT in your teaching?

Tell me your personal views about using ICT in your teaching, Prompts: how would you expect it to be, how you expect students to use ICT in your classroom, bring examples from your own subject teaching. How would you facilitate students' use of ICT in their teaching? What do you think about their ability to use ICT in their teaching?

Have you seen any changes in your perspectives and practices in terms of ICT use throughout your career? Prompts: What makes that change occur? Why do you believe that you need to change? Reasons, beliefs about change in terms of ICT use

What does innovation mean to you? Prompts: What kind of thinking do you want your student to have when it comes to teach? Is there a culture of innovation in people's practices at your institute? Is there a culture where people talk about what they try differently? Is there a culture where you celebrate these kinds of efforts? Examples, events, experiences, stories

What does pedagogy with ICT mean to you? Prompts: What is your philosophy of teaching, your institutional philosophy? What changes do you think you may need to bring to the pedagogy when ICT incorporated? Why,

What difference do you notice in teaching and teaching to teachers in terms of ICT use? What are your pedagogical approaches to teach them to use ICT? Tell me about any technology goals you have for your students. What should they know, be able to do and understand by the time they graduate as teachers? **Prompts:** what, why…..

What new facilities/tools/ were introduced in your working setting during last year? **Prompts:** Do you think they are useful for your teaching? How do you use them, and what difference did you notice in your student's learning when these facilities were introduced?

Appendix E: Hanging out and Field Journal (FJ) Examples

Snapshots	Occasions	Excerpts from reflective journal
Everyday activities	Tea time	**2 January 2013-** Around 10:30 we decided to go for a tea. We telephoned other three colleagues to check whether they can join us for a tea. Around 10:45 we left the room to a nearby coffee station. There was more than six staff members with us at the coffee station, [names are removed] four of them were my participants. During our tea we talked about the new courses and new students who are enrolling this semester.
	At the workstation	**22 January 202-** I started noticing many of my participants spend time sitting next their computers, flicking pages of the books, online materials, webpages, images from Google, and so involved in preparation of PPT. I observed this in many of my visits to my participants' workstations. Today for an example, I visited six of my participants' rooms. I found all of them occupied with preparation of PPT. Last week the semester started, therefore it seems that many of them are so occupied in preparing slides for their classes. Whenever I visited them, I purposely talked about their presentations so that I get some time to observe what they do. I sometimes needed to give a few tips for making their presentations creative. My purpose of this involvement was really useful later on…for my observation as I get more time to spend with them… and meantime observing what they do.
Different types of Reflections	Reflection in action (reflecting to interviews)	**11 January 2012-** When I had my interview with 2nd participant, I felt too distant while she was talking. I thought a lot… wondered what makes her to feel distant when I carried my interview with her. Later, thought about it, I understood that this particular participant is a very senior staff who had heaps of experiences in this profession perhaps she felt a little awkward to have a conversation with me. Although she was a colleague of mine, we happen to talk about various things informally, but sitting in front of me as a participant in my research… made her uncomfortable. Or I thought maybe she is not happy sharing some of her experiences with someone like me (who is relatively junior and younger than her). I was completely shocked when she confronted me at the interview 'what exactly are you trying to do'? The question tone was not so appealing …
	Reflection on action (after completing an event, interview or observation)	**8 January2012-** I arranged a meeting with my participants. I invited them to a traditional breakfast to participants, and I explained my research to them. I also informed them the procedure and how I am going to maintain their anonymity and confidentiality. I also expressed my gratitude and appreciation for their participation and willingness to give time for my research. I felt I was fortunate to have a group of participants like them. I also acknowledged the administration support and the colleagues' involvement in my research. It was a very productive meeting. Everybody enjoyed the meal and freely asked questions about my research and their involvement.

Snapshots	Occasions	Excerpts from reflective journal
		12 January 2012- I felt when listening to TE4 that I should talk to her more about practical examples of her classroom and how the technology complement to her practice. She mentioned about her experiences of using PPT as a student teacher. She did not add much about her current practice. I thought I will ask more questions regarding this in my further interviews.
	Reflection through action (memos written when transcribing)	**15 February 2012-** While transcribing about my meeting yesterday (14/2/2012) I thought it would be important to ask questions about different teaching approaches and ICT use in the next interview, seek about their views on teaching with technologies, more practical examples. I realized even though I ask about their classroom practices, they talk in general. Good that I will later observe their teaching and then clarify more about classroom practices.
Writing experiences, dilemmas and challenges	Talking to an imaginary friend	**2 January 2012-** The first moment I entered the institution after being away for one year made me feel overwhelmed, suddenly, various emotions run through my body. I was excited to see my colleagues and other staff at the office. For about eight years, they were more like my second family, we happened to have many gatherings and informal outings. I entered the office, the first person I saw at the reception was Amira (not the real name) she hugged me with a warm welcome. Other staff members at the office soon everybody from different sections came and greeted me with warm feelings and hugs.. The moment made me recall the days I was working, though it was a busy professional life. I felt overjoyed just by being there.
		3 January 2012- Thinking about those days, I moved forward seeing the same walls, chairs, doors, names on doors, corridors, and study corners and notice boards. I almost felt the image of my last day before my leave as it reversed back. Taking a glance from the window outside the road made me flash back memories again about the memorable moments of eight years. My students, they loved me and enjoyed my classes. I just missed my teaching so much.
		15 January 2012- Halfway through my data collection, I struggled to understand my role as a researcher, because I found it very hard to separate it from my workplace role and was exacerbated by my participants seeing me primarily as their colleague rather than researcher. I was daunted by a number of 'hiccups' (difficulties) that were unfolding in my own thinking as I continued with interviews and observations.
		12 January 2012- I am wondering whether I am on the 'right track' or not. Sometimes, I find it really hard to believe what my participants are telling me. Do you know I was very upset about yesterday's interview? I wondered whether I'm going to get any useful data, 'something new' to my knowledge. It is quite difficult to accept that all what my participants' experiences are similar to mine. I even wonder whether my interview techniques need to be more practised or perhaps crafted, so that I'll be able to direct the conversation towards my focus of research.

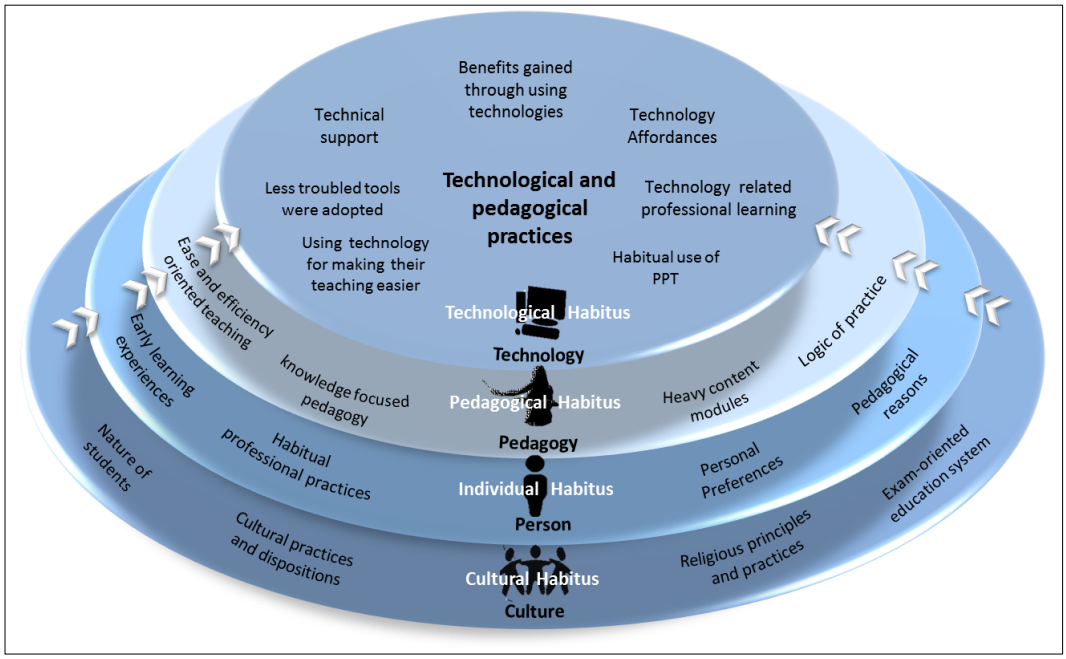
Snapshots	Occasions	Excerpts from reflective journal
Notes on participants observation	A casual observation on my participants	**3 January 2013-** Today, I came to [name of the institute] around 8:30 morning. As usual, I went to the office first, and talked to some administrative staff for a while. And I went to my participants' room; It is a workstation of my two participants [names are removed]. They were not busy. As it was the early morning they were checking their emails and checking through the meeting schedules. …They discussed the nature of enrolment in this year. They were concerned about the teaching hours because there will be more students coming for part time basis.

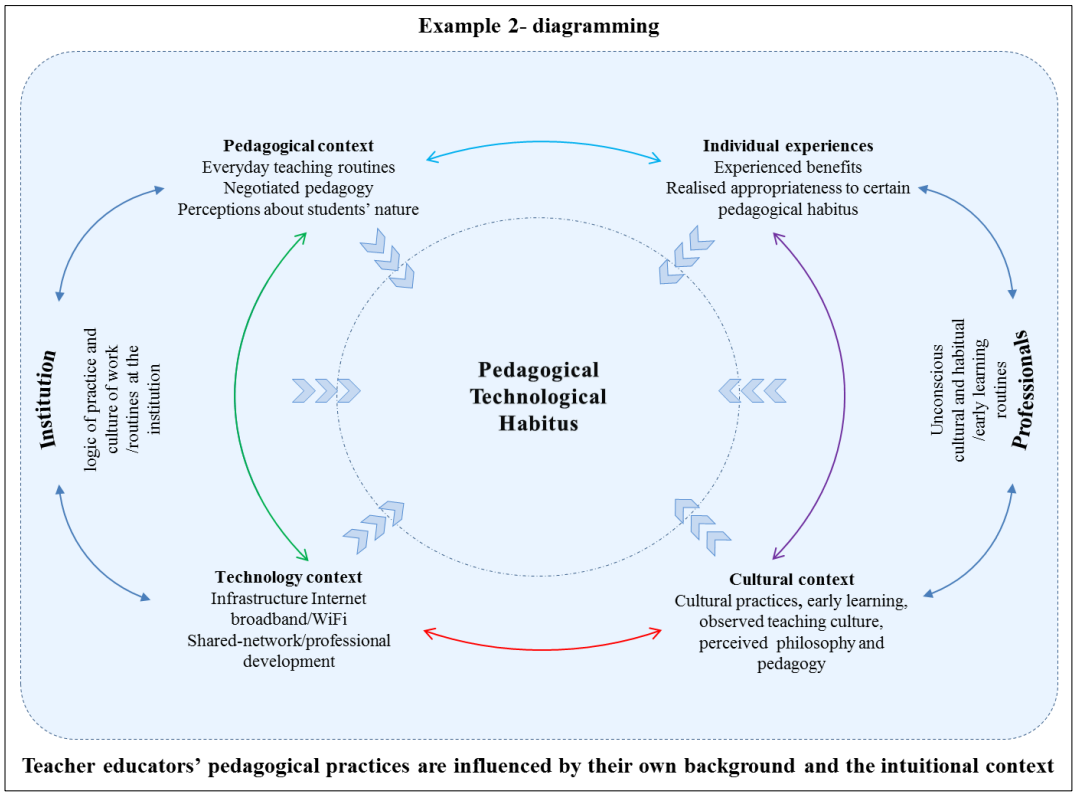
Appendix F: Follow-up interview Questions

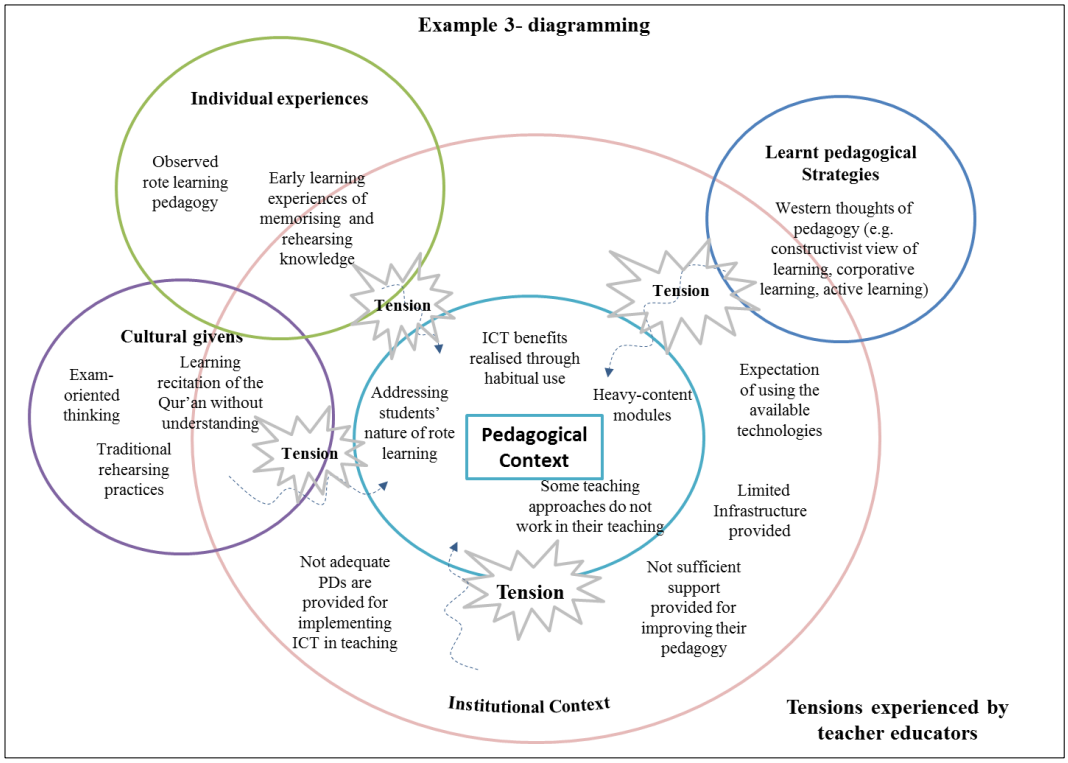
From my preliminary findings, I found that most of you are very familiar with technology use in teaching. However, your use of technology remained on specific tools such as PPT and for specific pedagogical reasons such teaching content. Please elaborate more about the areas below:

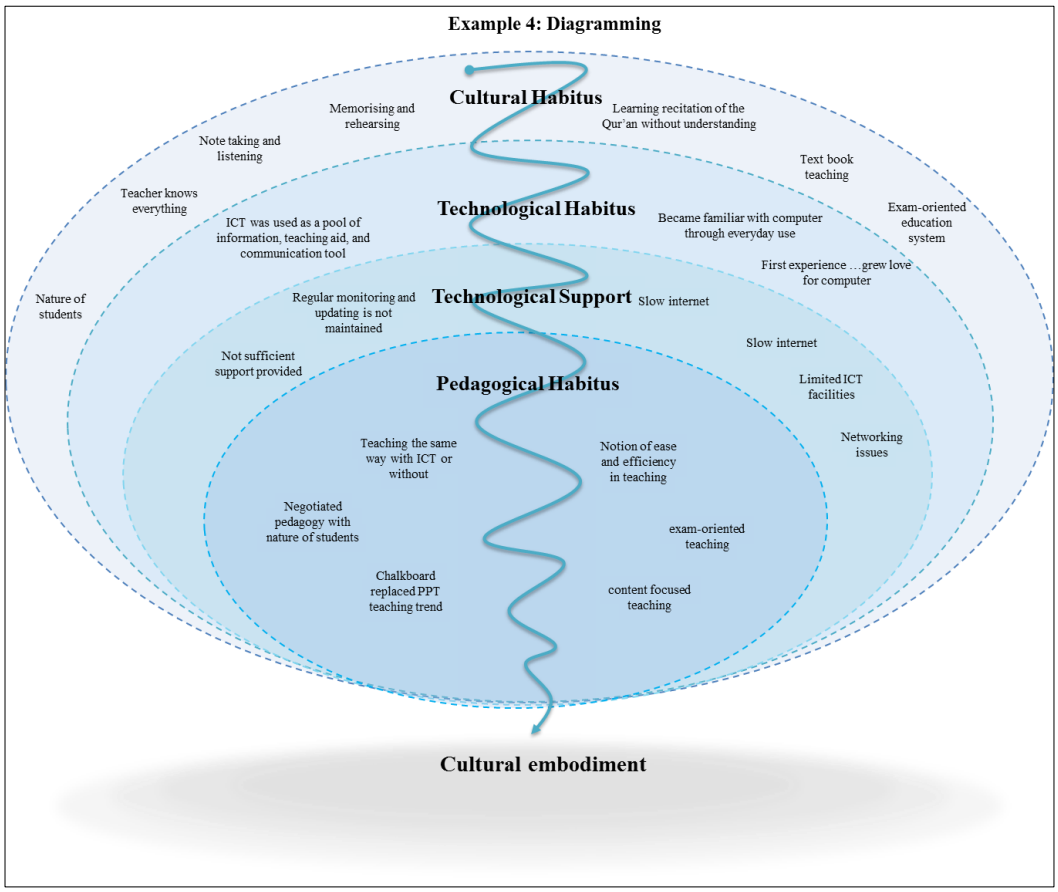
- Describe your classroom learning experiences and how they relate to your own classrooms teaching
- What do you do mostly with technologies in teaching? What do you do to make your classroom interactive? How far do you think your students learn through interactive activities?
- What do you think about the rote learning pedagogy and its relevance to your teaching and your student learning?
- Let's talk more about what you notice in your teaching when using technologies or without? Describe style of teaching, the difference in both yours and your students' roles in your classroom.
- Can we discuss the best pedagogies with technologies in your experience, how do you differentiate it from your early teaching if you have not used technologies earlier? Please provide practical examples on how a classroom would look like in your teaching when technology is used.

Appendix G: Examples of using PowerPoint for Diagramming






Example 3- diagramming
Individual experiences
Observed rote learning pedagogy
Early learning experiences of memorising and rehearsing knowledge
Learnt pedagogical Strategies
Western thoughts of pedagogy (e.g. constructivist view of learning, corporative learning, active learning)
Tension
Tension
Cultural givens
Exam-oriented thinking
Learning recitation of the Qur'an without understanding
Traditional rehearsing practices
Tension
ICT benefits realised through habitual use
Addressing students' nature of rote learning
Pedagogical Context
Heavy-content modules
Expectation of using the available technologies
Some teaching approaches do not work in their teaching
Limited Infrastructure provided
Not adequate PDs are provided for implementing ICT in teaching
Tension
Not sufficient support provided for improving their pedagogy
Institutional Context
Tensions experienced by teacher educators


Example 4: Diagramming
Cultural Habitus
Memorising and rehearsing
Learning recitation of the Qur'an without understanding
Note taking and listening
Text book teaching
Teacher knows everything
Technological Habitus
ICT was used as a pool of information, teaching aid, and communication tool
Became familiar with computer through everyday use
Exam-oriented education system
First experience …grew love for computer
Nature of students
Regular monitoring and updating is not maintained
Technological Support
Slow internet
Slow internet
Not sufficient support provided
Pedagogical Habitus
Limited ICT facilities
Networking issues
Teaching the same way with ICT or without
Notion of ease and efficiency in teaching
Negotiated pedagogy with nature of students
exam-oriented teaching
Chalkboard replaced PPT teaching trend
content focused teaching
Cultural embodiment

Appendix H: Ethical Approval

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THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

MEMORANDUM

To: **Aminath Shafiya Adam**
cc: Dr Noeline Wright

From: **Associate Professor Linda Mitchell**
Chairperson, Research Ethics Committee

Date: 5 May 2011

Subject: Supervised Postgraduate Research – Application for Ethical Approval (EDU036/11)

Thank you for submitting the amendments to your application for ethical approval for the research project:

Title: **Understanding lecturers' perceptions and practices related to integrating ICT within the teacher education programmes: A case study in Maldives** Institution name is removed

I am pleased to advise that your application has received ethical approval.

Please note that researchers are asked to consult with the Faculty's Research Ethics Committee in the first instance if any changes to the approved research design are proposed.

The Committee wishes you all the best with your research.

Linda Mitchell

Associate Professor Linda Mitchell
Chairperson
Faculty of Education Research Ethics Committee

Appendix I: Consent Form for the Institution

I_____ as the dean of Faculty of Education, Maldives agree to allow Aminath Shafiya Adam to conduct her research on "Understanding lecturers' perceptions and practices related to integrating ICT within the teacher education programmes: A case study in the Faculty of Education, Maldives".

- I have read the required information related to the research entitled above.
- I have read the potential harm to the institute or lecturers and how the rights of privacy, confidentiality, and anonymity of the lecturers, will be safeguarded.
- I have granted permission to the researcher to organise meeting with the staff and invite them to participate in the research.
- The information collected from the interview and observation of classes will only be used for reporting finding of this thesis, in a conference paper or similar forms, publication in research and educational journals and reports to institutions like universities or government agencies like ministries.

Signature _____ Date _____

Appendix J: Consent Form for the Participants

Please fill the information below and sign the consent form

Gender: Highest Qualification

Teaching Experience: Teaching Subject(s):

I _____ of Faculty of Education, Maldives agree to participate in the entitled research on "Understanding lecturers' perceptions and practices related to integrating ICT within the teacher education programmes: A case study in the Faculty of Education, Maldives" By Aminath Shafiya Adam.

- I have read the required information related to the research entitled above.
- I agree to participate voluntarily, and fully understand my rights to withdraw from the research at any time up until I receive the transcripts.
- I agree up to two interviews, one focus group session, and permit the researcher to observe my teaching during my scheduled classes, and I understand that the researcher may wish to clarify ideas after the observation.
- All the information I provide through the interview or observation of my classes will not be used without my prior permission.
- Confidentiality and anonymity of my personal identity will be protected as far as possible.
- The information collected from my interview, observation of my class, and focus group discussions will only be used for reporting the researcher's finding of this thesis, in a conference paper or similar forms, publication in research and educational journals and reports to institutions like universities or government agencies like ministries.

Signature _____ Date _____