PROFESSIONAL DEVELOPMENT AND CHANGE IN ESL LECTURERS' PEDAGOGICAL BELIEFS AND ACTIONS ABOUT THE ROLE OF TECHNOLOGY IN A MALAYSIAN POLYTECHNIC CONTEXT

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List of Acronyms

ESL: English as a Second Language

ICT: Information and Communication Technology

DPE: Department of Polytechnic Education

DPPCE: Department of Polytechnic and Community College Education

MOE: Ministry of Education, Malaysia

MOHE: Ministry of Higher Education, Malaysia

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ABSTRACT

The implementation of a particular technology (Cidos) by ESL lecturers in Adiwira Polytechnic was low despite the requirement for them to implement an innovation: a particular teaching approach which combines classroom teaching with technology to develop certain 21st-century skills in students. Research has shown that lecturers' utilisation of technology in their teaching context is strongly influenced by their beliefs, which could be shaped by professional development. This study aims to explore how their beliefs about teaching and technology affect the implementation of the innovation and how professional development sessions affect their beliefs and actions. Building on existing works of Rokeach's theoretical suggestion on beliefs and Guskey's model of lecturer change, this study asks: What are lecturers' beliefs on the utilisation of technology in their teaching context and how did professional development influence their beliefs and implementation of technology. In this context, lecturers' pedagogical belief is defined as lecturers' implicit assumption about students, learning, classrooms, and the subject matter to be taught. Based on a review of the literature on lecturers' beliefs, technology implementation and professional development, semi-structured interview, observation, online group discussion, focus group and researcher's journal were used were carried out with two (2) ESL lecturers at the institution. Analysis of the participants' responses demonstrated that change in lecturers' beliefs and technology implementation was associated with professional development with certain criteria. The results of this study indicate that professional development does have an impact on lecturers' beliefs and implementation of technology. On this basis, it is recommended that Adiwira Polytechnic management team uses professional development as a key factor in shaping lecturers' beliefs and implementation of technology in their teaching context. Further research is needed to identify strategies that could improve the effectiveness of professional development programmes while considering barriers that would halt the progress, such as lack of technology and access to the internet.

DECLARATION

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

COPYRIGHT STATEMENT

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Chapter 1 Introduction and background to the study

"People before products; for good people make good products" – Konosuke Matsushita

1.1 Researcher's background in Technology and Educational Technology

I believe that this journey began with my personal encounter with technology about four decades ago.

I was born in a southern state of peninsular Malaysia in the mid-70s and attended primary school in the early 80s. During this time, I grew up in an environment without computers, where television and radio or Video Home System (VHS) cassette players were the only educational technology available in the house and primary school. However, I have always been passionate about playing electronic games, and as a child, I used to spend my free time playing the games using my handheld Casio 'Game & Watch' device. I also owned a black Atari, a game console given to me as a gift by a family member when I visited my maternal grandmother's family in Singapore. I heard and learnt about the existence of computers over the radio and television but had never actually seen a real one.

My first encounter with a computer took place in 1986 when I attended a government-sponsored boarding high school. I remember seeing rows of desktop computers called Amstrad as I entered the school's computer lab for the first time to learn BASIC (Beginner's All-purpose Symbolic Instruction Code), one of the earliest and simplest computer programming languages. However, what I learnt for two years remained as theoretical as computers were not available outside of the computer lab thus preventing us, the students, from putting into practice the knowledge that we learnt from our computer lessons. On top of that, I did not have my own computer back at home.

Such early yet minimal exposure to technology certainly did not make me a computer genius who uses computers to make a living. Still, I believe that it, to an

extent, has a significant role in determining my confidence and later, my choice and interest in using technology for both personal and professional purposes.

My tertiary education did not expose me further to the use of technology in my studies. Our sixth form lecturers taught us conventionally, in the total absence of technology. However, things changed when I was at the university, doing my first degree in TESOL at Chichester Institute of Higher Education (now the University of Chichester) in West Sussex, England, in the early 90s. I started using computers to do my assignments and was later introduced to electronic mail (e-mail) as a means of communication. There were a few computer rooms at the campus for students to use, but they were always full, indicating that most students did not have their computer – either desktop or laptop.

After obtaining my bachelor's degree in TESOL in the late 90s, I worked for a decade as an ESL lecturer in several high schools in rural and non-rural areas in Malaysia. My interest in using technology in my ESL teaching and learning context started when I began to use technology (multimedia) to create teaching aids, such as using PowerPoint to create animated descriptions of tenses - an aspect of language which my students found hard to understand and master. During this time, software for ESL students was either too expensive for the students, lecturers or even for the school to purchase. There were some trial versions, but access to the content was limited as they required the users to subscribe to gain full access to the system and use the software. On top of that, the contents were not always suitable for the students. My skills in creating teaching and learning aids using multimedia tools developed over the years until I became very good at it to the extent of winning some competitions at school levels. Improvements in students' achievement particularly in grammar and writing sections in the assessments both at school and national levels became a drive for me to continue using technology and I started to believe in the potentials of technology in assisting students in learning ESL.

About a decade later, I was promoted to work at higher learning department at the Ministry of Higher Education (now the Ministry of Education), Malaysia, as an education officer. Upon knowing that I could be instructed to teach at technical and

vocational further learning institutions such as polytechnics and community colleges should the needs for ESL instructors increase, I knew that I needed to be ready. At that time, I was aware that at higher learning institutions, technology and e-learning are widely implemented, and I was also aware that I lacked knowledge and skills in this area. Due to this awareness, I took several steps as a preparation; one of them was to further my studies, and I chose to enrol as a postgraduate student of Educational Technology (EdTech) and TESOL at the University of Manchester.

Taking the EdTech and TESOL course was indeed an eye-opener. At that time, I believed that the knowledge that I obtained from the course would be relevant and significant to my future teaching context. The lecturers were very approachable, resourceful and helpful. Dr Gary Motteram and Ms Susan Brown were among them who taught me EdTech subjects. They later became my supervisors for my study at PhD level.

While attending the course, I revisited and relearnt the technology that I had been using for both personal and professional purposes, such as the computer and its software like Microsoft Office (Words, PowerPoint and Excel) and the global information medium which can be accessed by users via computers connected to the internet namely the World Wide Web ("www"). I was also exposed to and introduced to platforms for online learning which have been commonly referred to as virtual learning environments (VLEs), or learning management systems (LMS), e.g. Blackboard and Moodle, social media and social networking sites and blogs, e.g. Facebook, WordPress and online virtual worlds such as Second Life. The technological knowledge and skills and pedagogical understanding and awareness that I gained and developed during a year-course were a real added value which would contribute to a more informed consideration of the use technology and practical implementation in my specific ESL context.

It was during this course too that I was first introduced to 'blended learning', a teaching and learning approach that combines face-to-face instruction with technology or digital technology environments which could support the development of specific 21st-century skills in students (Bonk & Graham, 2004;

Sharma & Barret, 2007; Banados, 2006; Scida & Saury, 2006; Murday, Ushida & Chenoweth, 2008; Tayebinik & Puteh, 2012). The course allowed me not only to learn about the theory of blended learning but actually to experience it through both face-to-face and online lectures and also engagement with all the assignments. This included learning to create and manage platforms for e-learning using blogs (WordPress), open-source tools such as Moodle, social media sites like Facebook and the online virtual world such as Second Life. I also learnt how to set up an online learning group and manage the online learning activities and sessions as an e-facilitator or e-moderator, a skill which later I found very useful to practise in my actual work context.

Apart from EdTech subjects, I received professional development on undertaking educational research from Developing Researcher Skills module and had the chance to put the knowledge into practice when I had to conduct a small research and write a dissertation on lecturers' and students' attitudes towards the use of technology in a high school in Malaysia.

After obtaining my master's degree, I returned to Malaysia and started working at Adiwira Polytechnic (a pseudonym) as an ESL lecturer in 2010. I was also appointed as an e-learning coordinator. My job was largely to encourage the use of technology among ESL lecturers, and my specific task was to encourage and assist ESL lecturers to utilise technology in their teaching context, particularly in utilising the institution's very own e-learning platform called Cidos.

This was how my interest to pursue a doctoral degree began, particularly when I was continuously puzzled by ESL lecturers' utilisation of Cidos which was very low, despite some in-house professional development sessions they had attended.

1.2 The Trends and Demands of the Contemporary World: The 21st Century Skills

Rapid development in technology has turned the world into a global village, impacting on all areas in many ways; the way people work (doing business, conducting a meeting, delivering subject content), socialise/communicate, learn

etc. These contemporary social and economic developments demand that young people be equipped with new skills and competencies, which enable them to benefit from the evolving new forms of socialisation and to actively contribute to the development of the economy (Ananiadou & Claro, 2009; Rotherham & Willingham, 2010). Ananiadou and Claro (2009) in their OECD (Organization for Economic Co-operation and Development) report, mentioned that people from almost all areas of the researched population namely the politicians, business leaders, policymakers, researchers, educators and employers agreed that the capabilities which are required to succeed in today's world are different than those needed in the 20th century.

The competencies, which are often referred to as "21st-century skills" (and also as soft skills), signify a broad set of knowledge, talents, personality traits and work habits, such as global awareness, information and communication technology (ICT), media and internet literacy, effective oral and written communication, self-direction, self-discipline, problem-solving, collaboration, cooperation and creativity, perseverance and flexibility to name a few (Trilling & Fadel, 2009; MoHE, 2009; Partnership for 21st Century Learning, 2011; Abbott, 2014). These capacities are believed by the stakeholders as significantly crucial to success in today's world, specifically in academic programmes and present-day careers and workplace (Rotherham & Willingham, 2010; Abbott, 2014).

Attempts to address 21st-century skills in today's classrooms are apparent all around the globe (Voogt & Pareja Roblin, 2012), especially in higher or further education institutions. This has a significant impact on teaching and learning structures and formats, as students/graduates' achievement is not solely measured by their academic excellence but by their abilities to communicate and collaborate effectively without or with the use of technology, think critically and creatively. It is argued that teaching and learning approaches that combine face-to-face instruction with technology or digital technology environments could support the development of these skills (Bonk & Graham, 2004; Sharma & Barrett, 2007; Banados, 2006; Scida & Saury, 2006; Murday, Ushida & Chenoweth, 2008; Tayebinik & Puteh, 2012) making the approaches as a central feature of the pedagogical landscape of the higher education sector (Johnson et al. 2015).

1.3 The Malaysian Aspiration

The role of Malaysian polytechnics as TVET higher learning institutions in fulfilling the aspiration of the nation.

Malaysia, as a developing country in South East Asia, aspires to become a developed nation and thus, is committed to developing the 21st-century skills in its future workforce to enable them to effectively contribute to national development (PSPTN, 2007 & 2011). As a part of this aspiration, it is commanding the education system at all levels to focus on nurturing the 21st-century skills (MOHE, 2009) in students.

Higher learning institutions, including more than 30 polytechnics, are entrusted to ensure that their curricula support the development of these skills (MOHE, 2009). Malaysian polytechnics are Technical and Vocational Education and Professional development (TVET) institutions under the Ministry of Higher Education (MOHE) which are established to train school leavers to become a part of the technical workforce, offering varieties of technical and vocational education courses (TVETipedia, 2011; Strategy Paper 9: Eleventh Malaysian Plan, 2016). The Department of Polytechnic Education (DPE) launched a plan for the transformation of polytechnics for the empowerment of technical education to support the Malaysian vision to be a developed country, in its attempt to strengthen polytechnics role in education and professional development (Department of Polytechnic Education [DPE], 2010).

To increase the quality of the teaching system and to further improve the quality of TVET higher education in Malaysia, polytechnic lecturers are commanded to utilise technology in their teaching and give emphasis to a student-centred learning approach (Department of Polytechnic and Community College Education [DPCCE], 2008). It is expected that this format could develop specific skills and abilities in polytechnic graduates, notably known as 21st-century skills. Professional Development programme is the only support the lecturers have been provided with the aim to help them understand the rationale for utilising technology

and implementing student-centred learning approach in their teaching context (Kamaruddin & Ibrahim, 2010).

DPE acknowledges the current global education scenario and trends that promote teaching and learning approaches that combine face-to-face instructions with digital technology environments (Bonk & Graham, 2004; Sharma & Barret, 2007). The department's Instructional and Digital Learning Division has put all efforts in accelerating technology to inspire learning among students. In 2009, it started with the plans to upgrade the technology facilities in polytechnics and the launching of the development of its official virtual learning environment (VLE) called 'Cidos', a version of Moodle that differs in some respect from Moodle to introduce and facilitate technology integration in teaching and learning (DPE, 2009). This platform enables lecturers to enhance learning and facilitation efficiently and effectively (Ahmad & Mohamed, 2017)

1.4 Statement of the Problem

The Department of Polytechnic Education's (DPE) plan and effort to encourage the utilisation of technology and the uses of Cidos as an e-learning platform will be hard to be achieved if lecturers as the front liners in this scenario show little interest and lack of effort to utilise it. At the beginning of this project, local studies reported that the number of educators who integrate technology in their lessons to develop exciting and effective teaching methods is still low in Malaysia (Aladdin, Hamat, & Yusof, 2004; Education Development Plan for Malaysia 2001 – 2010, 2001; Sidin, Salim, & Mohamed, 2003; Abd Rahman, Ismail, & Razali, 2003; Nikian et al., 2013). Several years later, scholars (for example, Mirzajani et al. 2016; Awang et al. 2018) found that technology usage in Malaysian educational institutions remains low with the 2013 Auditor General (AG) report finding that less than five per cent of Malaysian educators make daily use of the technology facilities provided (Gryzelius, 2015).

To date, studies related to Malaysian polytechnic lecturers' use of technology in their practice are minimal, particularly in the area of English language teaching (ELT). A few investigations carried out at several polytechnics reveal that

technology utilisation by lecturers, ranges from non-use to average, reporting lack of professional development and technological facilities as the main reasons for the low utilisation (Zakaria, 2001; Basir Ahmad et al., 2010; Simin & Sani 2015; Mokmin, 2019). Another study by Siti Noridah Ali (2012) reveals that polytechnic lecturers' perceptions about technology utilisation in promoting higher-order thinking skills (HOTs) do not match with their teaching practices with technology utilisation in Mathematics classrooms.

Despite the national and institutional aspiration which stresses the need for greater technology integration by higher learning institution educators (MOHE, 2009, 2011), ESL lecturers in Polytechnic Adiwira seemed to have not been affected by the instructions. They held firmly to traditional teaching practices with very minimal integration of technology. As "lecturers' low-level uses of technology are not adequate to meet the need of the 21st-century learners" (Ertmer & Ottenbreit-Leftwich, 2010 p.256), it is, therefore, a concern that students will not develop in ways that should enable them to make a significant contribution to the Malaysian society.

The introduction of a teaching and learning approach that combines face-to-face instructions with digital technology environments will not progress far, especially when the traditional form of education and assessments are still being practised fully by the educational systems in polytechnics (Ling, 2010; Simin & Sani, 2015). The conventional way of teaching is seen as contradictory to student-centred learning approach, an approach that if implemented effectively, could develop and enhance the development of 21st-century skills in students.

Researchers argue that despite the advantages offered by technology in foreign language teaching and learning contexts (Pennington, 1996:1; Adams & Burns, 1999; Beatty, 2001, Muir-Herzig, 2004; Szendeffy, 2008; Dudeney and Hocky, 2008; Barani et al., 2010; Alnujaidi, 2017; Hassanah & Abdulrahman 2018, Alkaromah et al. 2018, Lau, 2019), technology integration in the classroom remains a complex and challenging process (Lam, 2000; Pelgrum, 2001; Kruse, 2001; as cited in O'Donoghue et al., 2004; Koehler & Mishra, 2005; Ertmer, 2005; Spector 2010, Hicks, 2013; Abunowara, 2016; Shazali & Hashim, 2018, Solano et al.,

2020), possibly due to the influence of both external and internal factors (Snoeyink and Ertmer, 2001) with the internal factors or factors at 'lecturer level' (Veen, 1993) such as lecturers' own beliefs and their technology knowledge and skill as fundamental barriers that outweigh other factors (Veen, 1993, Cuban, 1993 and Lawson & Comber, 1999 & Lam, 2000; Ahmad, 2002; Yunus, 2007; Ertmer, 2005; Samuel and Zaiton, 2007; Fives and Gill 2015; Tondeur et al., 2017). Efforts like installing and upgrading the technology facilities, providing professional development and technical support do not guarantee usage by lecturers (Dexter et al., 1999; Lam 2000, Ertmer, 2005) because lecturers' decision to integrate technology is made more complicated by their own educational beliefs (beliefs about teaching and learning) and knowledge of using technology in teaching (Lam, 2000; Ahmad, 2002; Yunus, 2007; Ertmer, 2005; Samuel and Zaiton, 2007; Inan and Lowther 2010; Deng et al. 2014).

Hence, it is expected that this study will produce a significant contribution to the subject, as well as helping polytechnic administrators and graduates to meet teaching and learning expectations

1.5 Rationale and Aims of the Study

Studies have identified professional development and support for educators as essential for effective technology integration in classrooms (Zakaria, 2001; Ertmer, 2005; Joyce & Shower, 2006; Chappelle, 2006; Kessler, 2006; Levy 2006; Al-Sharari, 2008; Franklin, 2007; Hew and Brush, 2007; Keengwe and Onchwari, 2008; Kopcha, 2012; Gilakjani, 2013; Alahmari & Kyei-Blankson, 2016; Shammari & Higgins, 2016; Hsu, 2016; Mei Lick et al., 2017; Alenezi, 2018; Mokmin et al., 2019). As agents for change, educators play a crucial role in the process of technology adoption (Dexter, Anderson, & Becker, 1999; Ertmer, 2005). At the heart of what they do lie their pedagogical beliefs (Nespor, 1987; Pajares, 1992; Calderhead; 1996; Ertmer, 1999 & 2005; Borg, 2006), the implicit components of their professional lives that determine their decision and actions in the classroom. Thus, it is crucial to understand the critical role - lecturers and their pedagogical beliefs in the implementation of educational innovations (Ertmer, 1999 & 2005;

Brinton, 2001; Dudeney and Hockly, 2008; Gebhard, 2009; Fives and Gill 2015; Tondeur et al, 2017).

Pajares in his extensive review on lecturers' beliefs stated, "Little will have been accomplished if research into educational beliefs fails to provide insights into the relationship between beliefs and lecturer practices, lecturer knowledge, and student outcomes" (1992, p.327). This research aims to explain polytechnic lecturers' pedagogical beliefs in relation to individual technology practices within a context of teaching English as a second language (ESL) and the impact of professional development towards their beliefs and practice on the role of technology in their teaching contexts.

1.6 Research Questions and Designs

The two research questions that have guided this study are:

i. What are ESL lecturers' pedagogical beliefs and utilisation of technology in their contexts?

ii. How did professional development influence ESL lecturers' beliefs and utilisation of technology in their teaching contexts?

A multiple case study design has been chosen for this study, in which two in-service ESL lecturers have been selected to represent different viewpoints on teachers' pedagogical beliefs and actions about technology use, and how these were influenced by professional development.

The approach allows for an in-depth understanding of the cases in the investigation, and a comprehensive analysis of the contextual complexities involved.

1.7 Context of this study: Polytechnics in Malaysia

Malaysian polytechnics are post-secondary institutions under the Ministry of Higher Education (MOHE), established to train school leavers to be technical

personnels (TVETipedia, 2011). At present, there are about 30 polytechnics in Malaysia accommodating more than 88,000 students from numerous courses, predominantly engineering, trade and commerce, and services in 50 programmes offered at diploma levels. The Department of Polytechnic Education (DPE) acts as the central agency that manages student entrance into these polytechnics. DPE also controls the whole administration of these polytechnics, such as provision for infrastructure, staff appointments, curriculum development and educational facilities even though each polytechnic has its director who is appointed by the DPE. It could be reasonably expected that students enrolled in a specific programme in one polytechnic are similar to students enrolling in the similar programme in another polytechnic (Siti Noridah Ali, 2012).

Students studying at polytechnics have six semesters to accomplish at least 93 credit hours, for a minimum duration of three years in their programme (Department of Polytechnic and Community College Education [DPCCE], 2009). After graduation, students who qualify can further their studies at universities (local or abroad) to gain qualifications at degree level. The structure of assessment for all courses is composed of at least 50% coursework, which includes projects, assignments, quizzes, and tests, and another 50% is devoted to final examinations to be counted towards the students' overall grade (DPCCE, 2009).

1.7.1 ESL course module

The ability to communicate fluently and accurately in English plays a crucial role in opening many possibilities for polytechnic students. Likewise, in the Tenth Malaysia Plan, Technical and Vocational Education and Training (TVET) has been emphasised with the objective to enhance the career opportunities for skilled workers (Ismail & Hassan, 2013). Skilled workers are expected to be equipped not only with hard skills, but also soft skills; the ability to speak fluently both in their first language and English as a second language so they could efficiently comprehend their working jobs. With the expansion of communicative components in English language subjects in Polytechnic as one of the future national workers' educational institutions, the significance of spoken English among the students has been

emphasised, to increase communicative competence of the learners to attain the language through several purposes in TVET context (Rayah et al. 2018)

Department of Polytechnic Education (DPE) first introduced the Communicative English (CE) course in 2011 to prepare students for the working world after graduation. The new CE course gradually replaces the previous English Specific Purposes (ESP) courses which consisted of two modules, namely, English for Technical purposes and English for Commercial purposes. This course, which taught time was 5 hours per week for 15 consecutive weeks, focuses on speaking skills, especially in developing students' ability to communicate effectively and confidently. It is designed to provide students with useful expressions that can be used in a wide variety of social interactions and situations. It also provides students with an opportunity to initiate and participate in group discussion (Communicative English course outline, DPE, 2011).

COURSE	:	BB08 COMMUNICATIVE ENGLISH 1
CREDIT(S)	:	2
PREREQUISITE(S)	:	NONE

SYNOPSIS

COMMUNICATIVE ENGLISH 1 focuses on speaking skills for students to develop the ability to communicate effectively and confidently in group discussions and in a variety of social interactions. It is designed to provide students with appropriate reading skills to comprehend a variety of texts. It is also aimed to equip students with effective presentation skills.

COURSE LEARNING OUTCOMES (CLO)

Upon completion of this course, students should be able to:

1. apply appropriate communication skills in discussions and conversations. (C3)
2. respond to selected texts using appropriate reading skills.(C2)
3. respond to current issues / topics of interest in written form. (C2)
4. apply effective presentation skills.(C3, A3)

1.7.2 ESL teaching and learning practice

As polytechnic graduates are expected to evolve and develop 21st-century competencies, such as creative and critical thinking, problem-solving, social and communication skills, and personal values, along with strong technical and technology skills, polytechnic lecturers are recommended to implement technology in their teaching to enable them to enhance learning and facilitation efficiently and

effectively (Ahmad & Mohamed, 2017). However, the present situation reveals that there is room for improvement in the implementation of this approach. The educational system in polytechnics has been practising the traditional form of education and assessment (Ling, 2010), which is perceived as contradictory to the approach that facilitates students' 21st-century competencies. According to Sunal et al. (1994), the traditional method of teaching is when a lecturer directs students to learn through memorisation and recitation techniques, thus not developing their critical thinking, problem-solving and decision-making skills. Researchers found that ESL lecturers in polytechnic practised conventional 'chalk and talk' classroom and drilling techniques to elicit an answer for language classroom tasks (Suhaily & Faezah, 2013; Annamalai, 2016). It is also reported that the main focus of ESL teaching and learning process in polytechnic was the completion of learning activities and tasks and answering the assessment questions set by the modules (Fariza, 2013).

1.7.3 ESL students' language proficiency

Studies conducted on the Malaysian Polytechnic students' English language proficiency level noted that the students' proficiency level is low (Md. Yasin et al. 2010; Fariza, 2013; Suhaily & Faezah, 2013; Annamalai, 2016). Researchers found that polytechnic students have difficulties in doing oral presentations s they were reluctant to speak English because they were too concerned in making mistakes, had low motivation and low self-confidence due to lack of practice (Rayah et al. 2018; Whai and Mei, 2016). It was reported that these students did not have the acceptable level of vocabulary, grammar and pronunciation due to their low ESL reading comprehension level (Md. Yasin, 2010). Researchers have also concluded that the common cause of the Polytechnic students' lack of ESL reading comprehension was the inadequate reading instructional strategies (Fariza 2013; Suhaily & Faezah, 2013).

1.7.4 ESL teaching and learning practice at Adiwira Polytechnic.

Adiwira Polytechnic is situated in a state in Malaysia which lies on the central part of Peninsular Malaysia. The institution with an area of 100 acres was established

in 1990 and is one the earliest polytechnics built under the Division of Polytechnic Management, Department of Technical Education, Ministry of Education Malaysia. At present, there are six academic departments in this TVET institution which are the Department of Civil Engineering, the Department of Mechanical Engineering, the Department of Electrical Engineering, the Department of Commerce, the Department of Mathematical Science and Computer and the Department of General Studies.

English is a compulsory subject to all polytechnic students except for those who are undergoing their industrial attachments. Lecturers (lecturers) teaching ESL courses hold at least a Bachelor either in Education or Arts, in the field of TESL or TESOL or English. Even though English is not classified as the main subject being offered, it is a requirement for the students to pass their English course. The ESL courses in this particular TVET higher education institution is based on on-going assessment mode. Students' accumulative mark establishes the grading in their written and spoken assignments, quizzes and listening tasks for the whole semester which is then combined with their final standardised test (Abdullah & Abd. Majid, 2013).

The English syllabi orientation has been changed from English as Specific Purposes (ESP) into Communicative English (CE) due to the recent polytechnic transformative revamp action plans. At the early stages of its implementation, lecturers had to create and prepare their teaching and learning materials, based on the course outline provided by the DPE. ESL lecturers at the English Language Unit of Adiwira Polytechnic then worked together and produced chapters which were then printed out as books and distributed to all the students taking the course. Both lecturers and students then used the book throughout the academic semester.

After three years of implementation, the Communicative English (CE) course entered a new phase when lecturers were required to teach using a blended learning approach, starting from January 2015. The duration of the CE course (15 weeks) and the learning units in the module remain the same, but the classroom time was reduced from 5 hours to 3 hours per week. Lecturers were required to

utilise the institution's Learning Management System (LMS) called Cidos in their teaching context, such as uploading the learning units onto Cidos. This change is in line with one of several national aspirations and DPE's 'Transformasi Politeknik' agenda, that is to empower the teaching and learning of polytechnic courses through utilisation of technology, to develop certain 21st-century skills in students such as ICT, communication, collaboration and independent skills so that they become a high-quality workforce that could propel the country's aim to become a developed nation (Agenda Transformasi Politeknik, 2011).

1.7.5 Professional development for ESL lecturers to use Cidos

Prior to the implementation of Cidos in mid-December 2014, the Training and Advanced Education Unit (ULPL), the unit responsible for managing staff professional development (PD), conducted one-off workshop named "Cidos & Blended Learning Workshop" several times during the 4-week semester break, which started in mid-November 2014 and ended when the new academic semester started in mid-December 2014. The PD sessions were carried out to give Adiwira Polytechnic lecturers the chance to learn about the technology and its implementation in their teaching context (Researcher's Journal, RJ). Each lecturer attended the workshop once. During the initial interview sessions, the ESL lecturers in this study stated that they participated in the workshop in mid-November, about a month before the new academic semester began (IA1 & IE1). They each received a Cidos manual containing a step-by-step guide to operate Cidos on their own after attending the workshop. According to the lecturers, this was the only Cidos and blended learning workshop they attended as no further session was conducted by ULPL.

Chapter 2 – Review of Literature

2.1 Introduction

This chapter presents an analysis of the literature that has informed the development of this study. It sheds light on the current debates in the field, positions the study on the broader research map, and presents rationales for the theoretical frameworks used.

This review of the literature mirrors the various stages of my thought processes as I investigated these areas of interest:

- the role of technology in ESL teaching and learning activities
- factors influencing lecturers' utilisation of technology
- lecturers' pedagogical beliefs and utilisation of technology in their teaching content
- factors influencing lecturers' pedagogical beliefs and use of technology in their teaching context
- influences of professional development toward lecturers' pedagogical beliefs and utilisation of technology
- mapping the territory - descriptions of relationships between factors/elements
- recognising gaps – I recognised arguments on lecturer's beliefs as 'messy constructs' (Pajares, 1992) as a gap, and this influenced my decision to explore and use Rokeach's scheme (1968) as a theoretical lens to understand the nature of human beings' belief systems, thus enabling me to define and discuss lecturers' pedagogical belief more effectively. I also recognised lack of vigorous studies regarding the impact of professional development on lecturers' beliefs and practice (Guskey 2003 & 2017, p.33; Wayne, 2008; Desimone, 2011) and this influenced my decision to explore and use Guskey's model of lecturer change (2002) to understand the relationships between professional development and changes in lecturers'

beliefs and utilisation of technology in their teaching context, situating the study within the issues, gaps and conceptual models.

As I stated in Chapter 1, my passion and motivation to explore ESL lecturers' pedagogical beliefs and practice about the use of technology in their teaching context emerged from personal observations and reflections on a particular issue, i.e. ESL lecturers' minimal usage of a specific technology (an online learning platform called CIDOS) in a Malaysian polytechnic teaching context, despite having participated in several professional development sessions. In line with the Polytechnic Transformation Agenda that highlights the empowerment of teaching activities through utilisation of technology, the Department of Polytechnic Education (DPE) as the polytechnic administrator urges their teaching staff to use and increase the utilisation of technology in their teaching contexts.

I started this research journey firstly by looking into how technology finds its way into teaching and learning activities in general and ESL context in particular. I then investigated factors influencing technology usage by educators in general, and second or foreign language lecturers in particular. The literature consulted was broad in both scope and geographical spread, and given my specific area of interest, relevant research from Asian countries was explicitly sought out.

My investigation on the influences for technology utilisation revealed that lecturers' pedagogical belief is a vital element that determines their technology usage. I, therefore, decided to follow this trail and explore the origin and nature of lecturers' beliefs, and how they influence lecturers' decision to use technology in their teaching contexts. Once the understanding was established, I then searched further into several elements that influence lecturers' pedagogical beliefs and their practice. I discovered connections between professional development and their decision to utilise technology in their teaching context.

In the process, I recognised the opportunities and challenges associated with Rokeach's scheme on beliefs (1968) and Guskey's model of lecturer change (2002) which then emerged as a conceptual springboard for my investigation, since they seemed to be suitable to be used as the lens to investigate and understand

the processes and links between professional development and change in lecturers' beliefs and classroom practice. Pajares in his extensive review on lecturers' beliefs stated, "Little will have been accomplished if research into educational beliefs fails to provide insights into the relationship between beliefs . . . and lecturer practices . . . and student outcomes" (1992, p.327). Thus, this research explains polytechnic lecturers' pedagogical beliefs about individual technology practices within a context of teaching English as a second language (ESL) and the impact of professional development towards their beliefs and practice on technology implementation in their teaching contexts.

In a nutshell, this was my journey toward situating the research within the broader landscape of literature on lecturers' pedagogical beliefs and technology. The following will present the details of this journey of exploration.

2.2 Defining technology and the role of technology in teaching and learning context

Learning through technology had become one out of several foci for researchers in language learning since the 1970s when the Computer Assisted Learning (CALL) approach took on a meaningful role (Mosquera, 2017). Among their interests and concerns include acceptance and utilisation of technology by students and lecturers in their English language teaching (ELT) and learning context, results of usage and integration of technology toward students' learning processes and whether computer-mediated learning may facilitate foreign language learning, The term 'technology' used in this study refers to a range of technical media from hardware (computers, laptops, tablets, mobile phones, projection technology and digital audio and visual equipment), software applications (generic software and multimedia resources) to information systems (Internet and cloud computing). The utilisation of technology into the process of teaching and learning is thought to increase students and lecturers productivity. At the same time, it allows both lecturers and students to find additional information they need for their lessons (Al-Zaidiyeen et al. 2010).

Earle (2002) linked the use of technology in classrooms with the concept of wholeness when all elements of the system are connected together to become a whole. For instance, the two essential aspects of teaching and learning, which content and pedagogy must be joined when technology is used in a lesson. In another way, if students are offered series of websites or ICT tools (e.g. CD ROMs, multimedia, etc.), then the lecturer is not utilising technology into teaching effectively since he/she is not tackling the pedagogical issues. Similarly, Williams (2003) described technology utilisation as the means of using any technological tool (Internet, e-learning technologies, CD ROMs, etc.) to assist teaching and learning. For the purpose of this study, Williams' definition of technology utilisation is used.

2.2.1 Utilisation of technology in foreign language teaching and learning context

About three decades ago, people communicated using dial telephones and snail mails, shopped for goods which were sold in the areas where they lived, travelled afar to attend meetings or conferences and so on. In the field of education particularly foreign language teaching and learning context, lecturers and students met for their lessons face-to-face in the classrooms where lecturers were the primary sources of information on foreign language subjects, students' communication with their classmates and lecturers mostly happened in the classrooms, students lacked practice in writing or speaking due to limited opportunities to do so in the classroom, students carried thick and heavy dictionaries to classes and so on. Meanwhile, language lecturers (ESL/EFL) had to bring bulky radio cassette players into their classrooms in order to conduct listening activities or tests, had to spend time writing lesson notes on the blackboard and so on, had to use a lot of plastic films to prepare lesson notes which were then projected in classes using OHP projectors, attend a meeting, professional development or discussion face-to-face or over the telephone, and so on.

Technology has changed the way people function daily in the world; the way people work, socialise, communicate, teach and learn. As the world has turned into

a global village, fast development in technology has been impacting on all the above areas in a number of ways. The current social and economic developments require that young people be equipped with new skills and competencies, which allow them to have all the advantages from the evolving new forms of socialisation and to actively contribute to the development of the economy (Ananiadou & Claro, 2009; Rotherham & Willingham, 2010).

The particular skills and competencies, which are often mentioned as "21st-century skills", signify a broad set of knowledge, talents, personality traits and work habits, such as information and communication technology (ICT), media and internet literacy, global awareness, effective oral and written communication, self-direction, self-discipline, problem-solving, collaboration, cooperation and creativity, perseverance and flexibility to name a few (Trilling & Fadel, 2009; MoHE, 2009; Partnership for 21st Century Learning, 2011; Abbott, 2014). These capacities are believed by the stakeholders as significantly crucial to success in today's world, specifically in academic programmes and present-day careers and workplace (Rotherham & Willingham, 2010; Abbott, 2014).

As education in the 21st century highlights globalisation and internationalisation (Boholano, 2017), attempts to address 21st-century skills in today's classrooms are apparent all around the globe (Voogt & Pareja Roblin, 2012), especially in higher or further education institutions. This has a significant impact on teaching and learning structures and formats, as students' achievement is not solely measured by their academic excellence but by their abilities to communicate and collaborate effectively, think critically and creatively. Many scholars argue that teaching and learning approaches that combine face-to-face or classroom instruction with technology or digital technology environments could support the development of these skills (Bonk & Graham, 2004; Sharma & Barrett, 2007; Banados, 2006; Scida & Saury, 2006; Murday, Ushida & Chenoweth, 2008; Beatty, 2010; Watkins & Wilkins, 2011; Tayebinik & Puteh, 2012; Chang & Huang, 2015; Duman et al. 2015; Lai, Yeung, and Hu (2016); Mosquera, 2017; Hernandez et al. 2018; Minalla (2018); Aravin & Rajasekaran, 2019; Hasanah & Abdulrahman, 2019; de Azevedo & Matias, 2019; Ahmed, 2020).

Technology, like multimedia texts in the classroom, assist learners in becoming familiar with vocabulary and language structures. The application of multimedia also makes use of print texts, film, and internet to enhance learners' linguistic knowledge (Arifah, 2014) and motivation to learn (Melor et al. 2013). The use of print, film, and internet allows learners to gather information and offers them different materials for the analysis and interpretation of both language and contexts (Arifah, 2014). Melor et al. (2013) studied secondary school lecturers in Malaysia, and the findings of the study revealed that attracting students' attention, facilitating students' learning process, helping to improve students' vocabulary knowledge and promoting meaningful learning were regarded as the most important advantages of using technology in teaching ESL reading and writing. However, as mentioned by Boholano (2017) that education in the 21st-century highlights globalisation and internationalisation, foreign language lecturers need to explore the affordances of different types of technology that they could integrate into their teaching to develop 21st-century skills in their students.

The last two decades have witnessed a revolution due to the dawn and the rapid rising of technology which has changed the dynamics of various industries and has also influenced the industries and the way people interact and work in the society, and has offered a better pattern to explore the new teaching model. As a result, technology and English language education has become very closely related as it plays a significant role in English teaching (Singhal, 1997). Technology application has considerably changed English teaching methods since it provides so many alternatives to make teaching more exciting and relevant for 21st-century learners (Patel, 2013).

For more than a decade, the use of technology in the classrooms has opened up new possibilities for language education through the web (World Wide Web – www), a system of interlinked hypertext documents accessed via the internet. This system enables students to view and utilise web pages that may contain text, images, videos, and other multimedia and navigate between them via hyperlinks (Choudhury, 2014), positively contributing to the development of 21st-century skills in students.

The first of the web generations was Web 1.0 which was developed and used to send messages through a unidirectional system (Ban & Summers, 2010). Later, Web 2.0 opened a platform that allowed interaction, collaboration and better communication. Currently, Web 3.0 offers the possibility to search for required information in an organised way; it also suggests other content related to the proposed topic (Miranda, Gualtieri & Coccia, 2010). Online streaming video website such as YouTube.com is a website that exists in the web which is considered as an online keep for digital video files. The videos are stored and can be displayed free by anyone. It is an online service where every person can watch, download and create videos for free (Ahmed, 2020). YouTube and TED Talks are examples of online streaming video websites which provide ESL learners with numerous communicative elements that allowed them to use English to express their ideas, making them highly resourceful tools that could develop students' higher-order thinking skills (Arifah, 2014), speaking and communicative skills (Ahmed, 2020; Hernandez et al. 2018; Aravin & Rajasekaran, 2019; Chang & Huang, 2015; Watkins & Wilkins, 2011), enhance their vocabulary learning (Kabooha & Elyas, 2018) which can be applied in speaking practices and improve listening skills (Hasanah & Abdulrahman, 2019), make analysis of grammar (de Azevedo & Matias, 2019); stimulate and develop autonomy (Watkins & Wilkins, 2011) as well as build self-instruction strategies and self-confidence (Lai & Kritsonis, 2006).

To date, there is a closer connection to information and knowledge as a result of immense amounts of data which is widely accessible. However, the technology is less meaningful if it is not utilised in a way that could improve education, particularly in helping students learn better, faster and more efficiently so that their 21st-century learning skills could be developed. Those desires have led to a new perspective on learning through the internet, which has evolved from other major approaches in language teaching and learning. "The advent of hand-held computer-based devices gave rise to mobile-assisted language learning (MALL) as we know it today" (Burston, 2013, p. 157). According to Burston, MALL has focused on the use of technologies such as electronic pocket dictionaries, personal digital assistants (PDAs) and MP3 players, among others. New forms of communication-based on online synchronous and asynchronous communication

commonly known as Social Network Sites (SNS) - Facebook, Twitter, Instagram, Skype, WhatsApp, Telegram, My Space, etc. through smartphones have made a considerable impact on how humans interact and communicate (Ngwenya, Annand & Wang, 2004; Chen, Liu & Wong, 2007; Murphy, 2009, Mosquera, 2017) and thus should hold great potential for developing foreign language learners' technological, communication and collaboration skills.

These SNS have attracted millions of users who have integrated these sites into their daily practices and allowed them to connect based on shared interests, political views, or activities (Clarkson, 2013). The benefit of SNS entails the ease of access through a personal computer and portable devices such as mobile phones, PDAs, smartphones, and MP3/MP4 players; a feature which Mosquera (2017) argues as suitable to be used as a VLE. Mobile devices have provided language learners with real-time experience, spontaneous interaction, and simultaneous integration (Duman, Orhon, & Gedik, 2015; Boyd & Ellison, 2007). Duffy (2011) identified five standard features of SNS: "a user can create a profile, find peers online, publicly erect or confirm peer connections, collaborate to share content, and form online communities" (p. 286). The immense popularity of social networking has created new opportunities for language learners to interact in authentic ways that were previously difficult to achieve (Chartrand, 2012). SNS contribute to fostering positive relationships among students and providing many opportunities for interaction with peers, instructors, and native speakers (Blattner & Fiori, 2009). Liu et al. (2015) examined four selected SNS from ESL instructors and learners, evaluated their ease of use, and identified their potential usefulness as teaching and language learning tools, which was reflected in their findings that demonstrated the positive potential of these sites. Lai, Yeung, and Hu (2016) examined students' and lecturers' perceptions of the specific roles lecturers may play in promoting autonomous language learning using technology outside the classroom. They found that students expected lecturers to play a more significant role in supporting their autonomous learning with technology by recommending a variety of technological resources; whereas, lecturers expected to play a minimal role due to their overestimation of students' capacities and their concern over their limited abilities to provide such support.

Social media technology such as Facebook, Instagram and YouTube allow students to communicate with people within and outside of their context, supporting the development of their communicative and collaborative abilities. Minalla (2018) who studied the utilisation of voice messages on WhatsApp chat group on his EFL undergraduate students' verbal interaction recommended positive effect that the technology as an efficient technique in enhancing his student's ability to interact verbally and thus EFL traditional classroom solely is no longer more appropriate in offering sufficient opportunities for EFL learners' verbal interaction. In addition, it creates an appropriate platform for students to practice language verbally well outside classroom contexts for what they have learnt in the classroom contexts.

Virtual teaching and learning platforms such as Moodle, Frog, Edmondo and Schoology are another kind of technology which scholars argued integration into ESL teaching and learning as having the potential to develop and enhance ESL students' autonomy and technological skills (Dudeney & Hockly, 2007; Green, Brown, & Robinson, 2008; Shazli and Hashim, 2019). A virtual learning environment (VLE) is a set of teaching and learning tools designed to enhance a student's learning experience by including computers and the internet in the learning process. Using these tools, students can access assignments or tasks given in their respective accounts and lecturers are able to evaluate and analyse certain areas that their students need attention the most (Shazli and Hashim, 2019). For example, lecturers can use the text chat function to communicate with their students asynchronously. If they want to interact with their learners synchronously, they can use Skype or videoconferencing applications to arrange a meeting. These are examples of how external tools can be linked to a VLE as a repository as an online system comprising a range of tools to support and manage learning (JISC, 2010).

Green, Brown, & Robinson (2008) refer to course management and learning management systems (CMS/LMS) as "software packages that allow an instructor to deliver portions of or an entire course via a Web-based environment" (p.17). As these authors suggest, VLEs play the role of supporting instruction by allowing lecturers to select and use different resources and applications to review course content. A "VLE allows you to create online courses and to enrol students in them;

inside the courses themselves, you can combine various resources with more interactive elements, like quizzes, questionnaires…" (Dudeney & Hockly, 2007, p.153). These affordances make VLE a technology suitable for promoting and developing autonomy in learners learning any subject. Computers and other technological devices today are pivotal instruments through which learners can access knowledge anytime and anywhere, making them autonomous learners, As Solomon & Schrum (2010) suggest, "Web 2.0 applications are replacing and improving on student access to information, communications, and collaborations; and some districts are moving to virtual schooling" (p. 167). VLEs, then, constitute one of the recommended paths towards such purposes.

2.2.2 Teachers' beliefs and technology utilisation

The use of technology by educators has long been a topic of discussion. Researchers argue that despite the advantages offered by technology in foreign language teaching and learning contexts (Pennington, 1996; Beatty, 2001 & 2010; Scida & Saury, 2006; Murday, Ushida & Chenoweth, 2008; Watkins & Wilkins, 2011; Tayebinik & Puteh, 2012; Chang & Huang, 2015; Duman et al. 2015; Lai et al. 2016; Mosquera, 2017), technology integration in the classroom remains a complex and challenging process (Lam, 2000; Pelgrum, 2001; Koehler & Mishra, 2005; Ertmer, 2005; Hicks, 2013). Two large-scale surveys by European Commission (2013) and Fraillon et al. (2014) reported that while teachers were more familiar with technology than they were five years previously, their active usage of it was still limited and secondary. Some scholars (e.g. Blackwell et al. 2013; Teo, 2014) have applied specific models to identify possible reasons for this slow integration among teachers, while others have investigated specific potential influencers to teachers' use of technology in the classroom (Alkhawaldeh & Menchaca, 2014; Ertmer et al., 2012; Lin, Huang & Chen, 2014; Liu, Lin & Zhang, 2017). Of the numerous internal and external challenges identified, teachers' pedagogical beliefs stood out as having a significant influence on their integration of technology in teaching (Lam, 2000; Ahmad, 2002; Yunus, 2007; Ertmer, 2005; Samuel and Zaiton, 2007; Ertmer et al., 2012; Prestridge, 2012; Rienties et al., 2013; Tondeur et al., 2017; Liu et al., 2017; Ding et al., 2019).

2.3 Defining teachers' pedagogical beliefs:

2.3.1 Clarifying the 'messy constructs'

The previous section provides reports and arguments of research and studies that have formed one of the philosophical frameworks for this study - that teacher belief has a significant influence in teacher's classroom practice. Thus, it is crucial to have a solid understanding of the term 'teacher belief', and this was a journey of its own. At the beginning of this journey, I discovered that it was somewhat challenging to understand the term and define it for this study context. After reading a lot of books and articles on teacher beliefs, I found that this particular challenge was also raised by other scholars like Nespor (1987), Pajares (1992), Kagan (1996), Zheng (2009), Ertmer (2010), Li (2012), Prestridge (2012) and Rienties et al. (2013). Hermans et al. (2008) also acknowledge this matter when they state "it is difficult to describe teacher beliefs in unequivocal terms considering the myriad ways they have been defined in the research literature" (p. 1501). This particular argument supports one of the several proposals and suggestions presented by Pajares (1992) in his highly cited educational review on teachers' beliefs. In his review, he argues that studies on teacher beliefs are a "messy construct" (p.307), which has been caused by definitional problems and poor conceptualisations and differing understandings of beliefs and belief structures. Some studies assume that beliefs, attitudes and knowledge are the same things, while there are scholars that argue that they are different to an extent. Scott (2015), who reviews problems and prospects of research on teachers' beliefs from the early 1980s onwards, supports Pajares' arguments when he states that the notion of beliefs as "not easily defined" (p.17).

Denessen (2000), specifically refers teachers' pedagogical beliefs to the understandings, premises, or propositions about teaching and learning that teachers hold to be true. As Pajares (1992) described, "All teachers hold beliefs about their work, their students, their subject matter and their roles and responsibilities" (p.314). Tondeur et al. (2017) recommend that we focus particularly on teachers' beliefs about teaching and learning and refer to these as pedagogical beliefs.

2.3.2 Belief and knowledge

Rokeach (1969) generally defines belief as “any simple proposition, conscious or unconscious, inferred from what a person says or does” (p. 113). Kagan (1996), describes teacher belief as “a particularly provocative form of personal knowledge that is generally defined as pre-or in-service teachers’ implicit assumptions about students, learning, classrooms, and the subject matter to be taught” (pp. 65-66). In an educational context, some scholars like Woods, Richardson (2003) and Calderhead (1996) suggest that teacher belief could be defined separately from teacher knowledge. Richardson (2003), defines beliefs as “psychological understandings or propositions felt to be true”; whereas, knowledge is referred to as ‘‘factual propositions and understandings’’ (Calderhead 1996, p. 715). A person’s beliefs about the physical and social world, as well as beliefs about oneself, is posited to exist within a comprehensive belief system (Rokeach 1968). In general, beliefs serve as personal guides that help individuals define and understand the world and themselves (Pajares 1992). Fives and Buehl (2012), note that defining beliefs is not always the challenge in the field of education, but finding consistency across these definitions is challenging so that a meaningful, pragmatic, and warranted conceptualisation of the research seems to be a more epic quest for scholars in the field (Fives & Gill, 2015, p.1).

2.3.3 Belief and attitude

Sabzian and Gilakjani’s (2013) descriptions of attitudes which are cited from Allport (1935) and Hogg and Vaughan (2005) suggest that attitude originates from beliefs. Hogg and Vaughan (2005), describe “attitude as a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols” (p.154). According to Allport (1935) (as cited in Hogg and Vaughan, 2005), an attitude is “a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related” (p.798).

Based on my understanding of Rokeach's suggestions on the origin and nature of several types of beliefs in our central belief systems (see 3.2) and Abelson's (1977) point of discussion on 'Differences Between Beliefs and Knowledge', individual's response to all objects and situations are the results of their beliefs (Allport, 1935, p.798). Abelson (1977) examines several strong believers in extrasensory perception (ESP) in-depth and suggests that "belief systems include a substantial amount of episodic (series of) material from either personal experience, cultural belief systems or from propaganda (for political doctrines)" (p.358). Although Rokeach and Abelson did not study teachers, their philosophical assumptions give us the idea about why people behave or act in certain ways over a particular entity and how their behaviour and action could be linked to their attitude, which could be traced back to their belief system, i.e. their episodic memories about the particular entity that formed a block of a specific belief. For example, an ESL lecturer, as a student in the 80s learnt ESL subject mostly through drilling, such as grammar drilling activities, from a teacher who practised a teacher-centred approach in the absence of technology. This personal experiences became episodic memories that were stored in the central belief systems after years of exposure to the same learning technique and style, and most probably were topped-up by series of achievements in tests and examinations, the student probably believed that these were the suitable, workable and effective methods to teach and learn English and these became his/her set of pedagogical beliefs. Any new knowledge or information about a new teaching technique, such as the need to integrate technology in his/her teaching, is referred to as the existing set of pedagogical beliefs. This set of beliefs then acts as a filter to whether the new information can be accepted or rejected, and these become attitudes toward the use of technology in their context.

Based on these arguments, I decided to accept reports of studies, written by researchers or scholars which use both the terms 'beliefs' and 'attitudes' and included them in my review of literature list. Beliefs, however, differs from knowledge, as "knowledge systems have no apparent need for such episodes, relying instead entirely on general facts and principles" Abelson (1977, p.359). These differences show that defining the term lecturers' beliefs is a challenging task, influencing scholars like Attia (2011) to use the terms belief and knowledge

interchangeably in her investigation about lecturers' thoughts towards technology at the PhD level.

2.4 Understanding the origin, nature and types of beliefs

My mission to understand beliefs, particularly lecturers' pedagogical beliefs did not stop at comprehending only the meaning of it. However, it includes the quest to understand the origin and nature of beliefs as well. Reading Ertmer's work (2010, 2011) gave me the idea of the importance of knowing the nature of beliefs, for researchers to think of and then propose actions that could be taken to influence beliefs, such as teachers' pedagogical beliefs towards using technology in their teaching context. Ertmer also suggested the use of 'Rokeach's scheme' to identify the location of teachers' pedagogical beliefs in the belief system (2010).

2.4.1 Rokeach's proposal on beliefs

This understanding led me to read Rokeach's (1968) work further, particularly his first book, titled Beliefs, Attitudes, and Values: A Theory of Organization and Change. In his book, he presented a philosophical argument for the importance and association of value to other psychological aspects such as beliefs and attitudes. Rokeach (1968) suggests that there are several types of beliefs (see the illustration below). Other scholars like Block & Hazelip (1995) agree with Rokeach's notion, stating that beliefs differ in strength and kind; the ease with which teachers can change their beliefs is related to the strength of the particular beliefs under scrutiny. In general, stronger beliefs are those that are more central to an individual's identity (Rokeach, 1968), quite possibly because they were established during earlier experiences and, thus, were used in the processing of subsequent experiences (Rokeach, 1968; Pajares, 1992).

Rokeach argues that the centrality of a belief relates to its connectedness: "The more a given belief is functionally connected, or in communication with other beliefs, the more implications and consequences it has for other beliefs and, therefore, the more central the belief" (p. 5). Using the analogy of an atom, Rokeach (1968) described a belief system as being anchored by a nucleus, or a

set of core beliefs, and outlined five types of beliefs that vary along this central peripheral dimension:

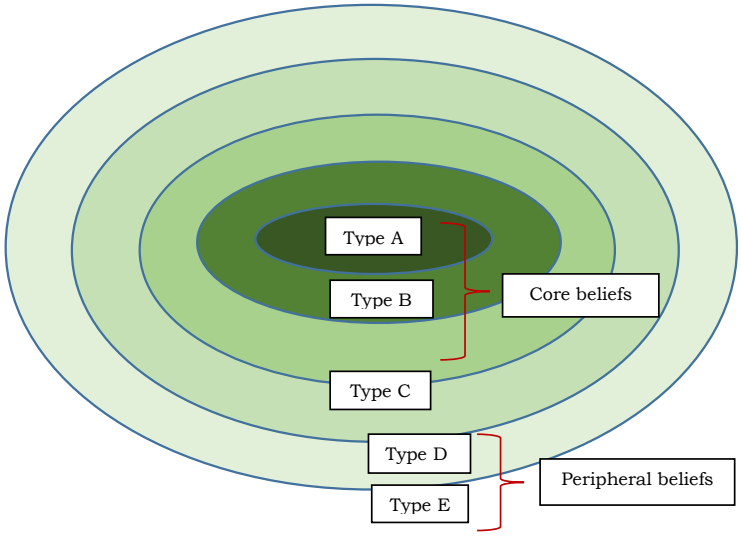


Figure 1 Rokeach's proposal on beliefs

Colour	Types of belief	Description
	Type A belief	At the centre are Type A beliefs, that is, core beliefs that are formed through personal experiences, reinforced through social consensus, and highly resistant to change. Type A beliefs include beliefs about one's identity or self, as well as beliefs that are shared with others.
	Type B belief	Moving out from the core are Type B beliefs which, like Type A, are formed through direct experience but, because they are held privately, tend to be unaffected by persuasion.
	Type C belief	Next are Type C beliefs, which relate to which authorities to trust, and although they are resistant to change, it is expected that opinions about them will differ.
	Type D belief	Closer to the periphery are Type D beliefs, which are derived from the authorities in which we believe and which can be changed, providing the suggestion for change comes from the relevant authority.
	Type E belief	Finally, Type E beliefs are located at the outermost edge and include inconsequential beliefs that are essentially matters of taste.

Table 1 Types of belief

In his book, Rokeach did not particularly address teachers' beliefs about teaching. However, it gives the idea that it is a Type C beliefs, as some beliefs about the nature of teaching are formed over many years of experience as a student (Keys, 2007; Richardson, 2003). These specific beliefs are resistant to change because they have been continuously supported by strong authority (such as parents and teachers) and broad consensus, i.e. the society (Albion & Ertmer, 2002). This information provides answers to Ertmer's question, "Where do teachers' beliefs exist in Rokeach's scheme and how are they used to process information related to teaching with technology?" (2005, p.32). Kagan's (1992) adds his view to these theoretical assumptions by stating that if this theory is correct, then core beliefs about teaching will influence how new information about teaching is processed, including ideas related to teaching with technology.

2.5 Challenges in changing teachers' pedagogical beliefs

Even though beliefs are not easily changed, it does not mean that they cannot be changed. Rokeach's proposal on the origins of beliefs enlightens my understanding of the nature of beliefs and the reason why technology integration in the classroom remains a complex and challenging process (Lam, 2000; Pelgrum, 2001; Koehler & Mishra, 2005; Ertmer, 2005; Hicks, 2013). Although teachers' pedagogical beliefs stand out as having a significant influence on teachers' integration of technology in teaching (Lam, 2000; Ahmad, 2002; Yunus, 2007; Ertmer, 2005; Samuel and Zaiton, 2007; Ertmer & Ottenbreit- Leftwich, 2010; Ertmer et al., 2012; Kim et al., 2013; Tondeur et al., 2017; Liu et al. 2017; Ding et al. 2019), changing them with the hope that this will, in turn, change teachers' behaviours is a very challenging process too (Ertmer, 2005). In their study on the effects of online professional development on 73 higher education teachers' beliefs and intentions towards learning facilitation and technology, Rienties et al. (2013) reported that change in beliefs does not necessarily lead to change in behaviour or action. They stated that the academics did not become more student-centred as a result of the professional development, despite showing an increase in their beliefs towards the approach. According to Nespor (1987), when a belief changes, it is more likely a conversion or a Gestalt shift, rather than as a result of a gathering

of evidence. Like the visual experience of seeing one-way and then another, the shift is instant but could possibly shift back unwillingly.

A teacher's pedagogical belief system comprises a complex and multifaceted structure of related beliefs on teaching and learning (Ertmer & Ottenbreit-Leftwich, 2010; Hermans et al. 2008). Core beliefs are the most stable and therefore, the most difficult to change as they have multiple connections to other beliefs (Richardson, 1996). Teachers' beliefs are hard to change as they are continually shaped by an assimilation process and social construction from time to time (Pajares, 1992; Ertmer, 2005). Their experiences as teachers are constantly moulded by the views and values communicated by those (colleagues, friends etc.) around them, and by the expectations of their superiors (administrators, senior colleagues etc.) which are transmitted through official and unofficial norms, rules, and procedures (Ertmer, 2005).

Part of the assimilation and social construction processes begins long before teachers become teachers, through their early learning experiences as students learning certain subjects while observing how their teachers taught them and how they pass these subjects without the use of technology in their classrooms (Pajares, 1992; Ertmer, 2005; Tondeur et al., 2017). This particular experience is the kind of information that shapes their beliefs in a way that it links technology as "an object", to "its attribute" that is, teaching ESL does not need technology integration (Fishbein & Ajzen, 1975 p.12; Richards et al., 2001; Ertmer, 2005). Their beliefs then remain unchallenged by the training they received as trainee teachers, at teacher training institutions (Richards et al., 2000), where they went through education norms and processes that did not integrate technology, or, due to the absence of a specific course module about teaching certain subjects effectively using technology. This experience strengthens teachers' beliefs that technology integration is not essential in their teaching practice.

For teachers who get a certain amount of exposure to technology integration in their teacher professional development, scholars argue that external elements at their work place such as the work culture of other staff that do not use technology in their teaching would influence their belief and attitude that they should follow the

same practice (Lam, 2000; Koehler & Mishra, 2005, 2006; Ertmer, 2005; Liu et al, 2017).

2.6 Elements influencing teachers' beliefs on technology utilisation in their teaching context

2.6.1 Professional development

Professional development (PD) has been repeatedly mentioned by scholars as a key influence to teachers' pedagogical beliefs about the integration of technology in their teaching and learning context (Butler-Pascoe, 1995; Egbert & Thomas, 2003; Al-Oetawi, 2004; Bauer & Kenton, 2005; Samuel & Zaiton, 2006; Wozney et al., 2006; Franklin, 2007; Hew and Brush, 2007; Keengwe and Onchwari, 2008; Kopcha, 2012; Gilakjani, 2013; Alahmari & Kyei-Blankson, 2016; Shammari & Higgins, 2016; Hsu, 2016; Mei Lick et al., 2017; Alenezi, 2018; Mokmin et al., 2019). Hence, institutions conduct staff development programmes such as short courses or professional development on technology to encourage their staff to use technology in their practice.

Alenezi (2018) carried out research in order to understand the barriers in the integration of Learning Management System (LMS) at Northern Borders University and found out lack of professional development influenced the implementation of LMS at the university. Muller and his colleagues (2008) link technology professional development to the successful integration of technology in the classroom. In a study of 400 pre-tertiary teachers, they revealed that professional development and the continuing support of good practice are among the most significant determinants of successful technology integration. In their studies, Sandholtz & Reilly (2004) and Mokmin et al. (2019) argue that teachers' technology skills and competencies are a strong determinant of technology integration. However, they are not conditions for effective use of technology in the classroom. They claim that professional development programmes that concentrate on technology pedagogical professional development such as the development of

learning materials instead of technical issues and adequate technical support, help teachers apply technologies in teaching and learning.

However, there appears to be a specific issue regarding the way formal PD is conducted. Scholars (e.g. Joyce & Showers, 1995; Guskey, 2002) argue that typically professional development is conducted once, without on-going effort to help teachers to transfer the new knowledge they gain into their teaching context. Nancy (2004) suggested that the amount of technology professional developments teachers received is a predictor of teachers' technology use. Research studies revealed that quality professional development program helps teachers implement technology and transform teaching practices (Brinkerhoff, 2006; Diehl, 2005). Lawless and Pellegrino (2007) claim that if professional development program is of high quality, the period for professional development lasts longer, new technologies for teaching and learning are offered, educators are eagerly involved in important context activities, teamwork among colleagues is improved and has a clear vision for students attainment. Kopcha (2012) who studied school teachers' perceptions of the barriers to technology integration stated that situated professional development activities that concentrate on the subject matter, values and the technology contribute to the creation of an environment that supported teachers' decision to use technology.

Scholars (for example Egbert et al. 2002; Kessler, 2007; Egbert et al. 2002; Moen, 2015; Jones & Dexter, 2014 & 2018; Macia & Garcia, 2016) suggest that along with formal professional development, non-formal professional development also plays an influential role in teacher adoption of innovations. Teachers learn from each other as they exchange ideas and share experiences in non-formal learning sessions. Kessler (2007) studied TESOL professionals' experience in CALL professional development and found out that informal preparation was closely linked to teachers' technology implementation in their teaching context while formal preparation was not. Based on a longitudinal case study, Levin and Wadmany (2008) suggested that the opportunity to practice, reflect and interact with other teachers are crucial in the process of facilitating classroom technology integration. Highlighting the role of colleagues, Granger et al. (2002) state that "the importance of collaboration cannot be over-estimated: teachers need each other - for team

teaching and planning, technical problem-solving assistance and learning" (p. 486).

In their study that involved middle-school teachers, Jones and Dexter (2014 & 2018) discovered that the teachers' system for learning to integrate technology into their teaching went far beyond what school leaders normally consider when planning for teachers' learning session. They argue that informal collaborations and independent work after formal professional development activities helped to bring the learning from the professional development room to the classroom. These findings are in line with Gobbo and Girardi (2001), whose participants preferred informal learning through colleagues to formal professional development. The teachers in this study found it more convenient to share their weaknesses with co-workers who were more acquainted with their teaching realities. Zhao and Frank (2003) also underline the importance of informal learning over formal professional development. They argue that because learning takes place in social settings, colleagues can influence one another's beliefs and attitudes toward technology use. They, therefore, suggest giving the teachers more opportunity to interact for better uptake of technology. The authors, however, note that given their profound influence, peers can also act as a "social pressure" against the integration of innovations (p. 832). For example, this may be evident in teaching contexts where an individual use of technology might indicate ostentation or signal a break away from the community.

In addition to its influence on teacher beliefs, peer collaboration affects and is affected by other factors for adoption, such as availability and accessibility of technology facilities, teacher's workload, technical support, teachers' pedagogical competence, students' technology competency and learning preferences confidence, time, and institutional culture.

2.6.2 Availability and accessibility of technology facilities

It is unreasonable to expect teachers to even think about utilising technology into their teaching if there is not much technology to be utilised, even if they believe the benefits technology could bring in their context. Studies report that availability of

standard technology resources is associated with the implementation of technology and that limited resources (Mumtaz, 2000, Zakaria, 2001; Egbert et al. 2002; Samuel & Zaiton, 2006; Kopcha, 2012; Alahmari & Kyei-Blankson, 2016; Liu et al. 2017; Mirzajani et al. 2016; Saxena, 2017; Alenezi, 2018; Awang et al., 2018; Mokmin, 2019) and funding (Gao, 2019) restrain educators' use of technology. In the same manner, Cox et al. (2003) explain that the majority of teachers use the technological facilities that are available to them instead of purchasing the ones that they need. Consequently, their pedagogy becomes dependent on the technology rather than enhanced by it.

Therefore, how does the availability and unavailability of resources influence technology integration globally? An international study by Pelgrum (2001) reports that a lack of resources emerged as one of the most significant hindrances to technology implementation. On a regional level, a European study confirmed that although the availability of resources does not necessarily guarantee technology adoption, lack of resources is a significant obstacle to technology uptake by teachers (Balanskat, 2006). In the US, a study by Baylor and Ritchie (2002) in 94 schools across the country found insufficient numbers of computers to be one of the barriers identified by the teachers. Similarly, the importance of access to resources is emphasised in a Canadian study of 764 elementary and secondary school teachers (Wozney, Venkatesh, & Abrami, 2006). In the Arabic-speaking countries, research identified lack of resources as a major obstacle to technology adoption. In their study on the Arab region, Loch, Straub and Kamel (2003) explained that whereas many private universities are well-supported with computers and networks, the majority of public universities are not. The absence of online networks and computer hardware was reported as a barrier to technology integration in schools (Al-Alwani, 2003; Alahmari & Kyei-Blankson, 2016) in Saudi Arabia. Similarly, lack of access to the internet and inadequate quality of the connection was identified as hindrances to faculty technology use in Saudi institutions of higher education (Al-Asmari, 2005; Al-Awani, 2003 & Al-Fulih, 2002).

In Malaysia, findings of studies show that technology resources such as facilities and access to the internet generally lack in many learning institutions that impede the integration of technology in teaching and learning (Samuel, 2007, Chin Wee &

Abu Bakar, 2006; Nikian et al., 2013; Mirzajani et al. 2016; Awang et al. 2018; Mokmin et al., 2019). Other than that, Simin and Sani (2015) state that technology facilities provided are not well functioning and not in good condition as it is not being used by teachers. In Malaysian Polytechnic and Community Colleges (TVET) context, a study by Zakaria (2001) reports that only minimal technology facilities were available for faculty use. For example, newer, up-to-date computers could only be accessed in the computer laboratories. If computers were available in the staff room, they were old and in some cases, obsolete (p.54). Awang et al. (2018) investigated lecturers' intention to use Virtual Learning Environment (VLE) and revealed that accessibility was the main influence experienced by participants of their study, which reduced VLE integration into teaching. Mokmin et al. (2019) carried out a study on TVET institutions' readiness for the implementation of a specific technology – the Flipped Classroom approach to comply with the movements of the educational institution toward the process of globalised learning and reported similar issue that lack of technological equipment and a poor internet connection can hinder the process of implementation of the approach.

2.6.3 Time

Studies have suggested and revealed time as an element that influences teachers' beliefs and integration of technology in their teaching context. Teachers need time, among other things, to interact with colleagues, attend professional development sessions, practice what they have learned outside their classrooms, prepare computer-based material, to interact with students and reflect on their progress. It is, therefore, not surprising that a large number of studies report time as a significant influence to technology implementation in classroom (Lam, 2000; Peirson, 2001; Egbert et al. 2002; Al-Asmari, 2005; Granger et al., 2002; Wabuyele, 2003; Friedman, 2006; Hermans et al. 2008; Md Yunus, 2007; Kopcha, 2012; Wang, Hsum 2016; Quek & Zhong, 2017; Mei Lick et al., 2017; Alenezi, 2018). Given the significant role of this factor, time is invariably associated with professional development, teacher collaboration, computer competence, confidence, and institutional culture. We have also seen how giving teachers' time to search for culturally appropriate material might reduce their apprehensiveness toward technology tools, especially the Internet (Al-Asmari, 2005). Nikian et al.

(2013) studied Malaysian primary school teachers' technology application in their classrooms and found out that insufficient time which was related to the amount of time a teachers needs to prepare their teaching and learning recourses for use with their learners as one of a few main obstacles to implement technology in their classroom. Similarly, research on VLE implementation among 60 secondary school teachers by Mei Lick et al. (2017) reported time as a significant hindrance to technology implementation in the classroom.

Looking at time from a different angle, educators need to bear in mind that change in practice for better integration is by nature a gradual process. Baylor and Ritchie (2002), for example, explain that teachers need to be exposed to novel ways of using innovations for a relatively long period before they can realise its full potential. Similarly, Veen (1993) estimates that it can take two-three years before technology becomes part of a teacher's practice. Guskey (2002) argues that change in teachers' beliefs does not happen after attending a professional development session but takes place after changes in classroom practice and students' learning conducts. This argument seems to support all the above proposal about the significance of time as an element that influence teachers' beliefs and integration of technology in their classroom.

2.6.4 Teachers' workload

Many studies (e.g. Samarawickrema & Stacey, 2007; Kumar et al. 2008; Neyland, 2011; Abuhmaid, 2011; Kale & Goh, 2012; Mei Lick et al., 2017) have revealed that the teachers' workloads influence their beliefs and their acceptance of technology in their teaching context. Mei Lick et al. (2017) studied 60 Malaysian secondary school teachers' implementation of e-learning called 'Frog' and found out the workload in school prevented them from further exploring and mastering the technology. Samarawickrema & Stacey (2007) investigated factors related to the use of learning management system in a large multi-campus urban university in Australia. They conducted a case study method and purposive sampling to select 22 participants used web-based methods to teach both on- and off-campus students for the study. The findings of the research revealed that increased workload, coupled with teaching with technology was critical to the participants of

the study. Factors reported to contribute to increased workload are maintenance of the course and constant upgrades, communicating with the student via emails, the learning of new skills and the continuous search of sustainable strategies.

Similarly, Neyland (2011) conducted both quantitative and qualitative study on factors influencing the integration of online learning in high schools in Sydney, Australia. The research involved 26 computer coordinators. They reported that in an interview, one computer coordinator in a school said, “Asking them to take on board yet another task in an already overcrowded curriculum and extremely busy work day is pushing many teachers to the limit and in some cases beyond” (p.11), indicating that increased workload of teachers was alarming. Also, Abuhmaid (2011) conducted a study on the practice and effectiveness of ICT professional development courses within the Jordanian education system. The sample population was 115 teachers and 12 school principals. Interviews, questionnaires, direct classroom observations, and field-notes of classroom practices were used for data collection. In the study, one principal reported that “teachers are already overloaded; they could not cope with the pressure and the pressure from ICT professional development” (p.12). In addition, a teacher stated that “teachers are overloaded to learn, prepare and practice what they learn” (p.12). Kumar et al. (2008) who investigated predictors of technology deployment among Malaysian teachers reveal that Malaysian teachers’ job was never confined to mere classroom teaching as it includes the preparation of examination questions and its mark schemes, the keying in of students’ personal data, their marks and results, preparation of minutes, reports, worksheets and testimonials” (p.1132). Kale & Goh, 2012 studied 161 teachers from high schools in both rural and urban locations in West Virginia and reported that while teachers are reasonably proficient in their computer and internet skills and have a rather high computer self-efficacy, their workload and a structured and standardised curriculum inhibited Web 2.0 integration in teaching. According to Fullan (2003), for teachers to realise the aims of the educational system as well as implementing new initiatives, it is necessary to lessen the workload of teachers.

2.6.5 Teachers' technological and pedagogical competence

Several studies suggest that teachers' computer competence is a major predictor of integrating technology in teaching (Berner, 2003; Na, 1993 & Summers, 1990; as cited in Bordbar, 2010; Mirzajani et al., 2016; Liu et al. 2017). Computer competence is defined as being able to handle a wide range of varying computer applications for various purposes (van Braak et al., 2004), "as well as user's ability to implement this knowledge productively" (Kumar et al.; 2008 p.1131).

In the early years of educational technology, technological skills were taught free from pedagogical and content knowledge (Hargvare and Hsu, 2000; Graham, 2011; Graham et al., 2004). Then, it was understood that pure technology alone could not help to develop pedagogical and content knowledge and their integration into teaching and learning process was taken into consideration (Kaya, Özdemir, Emre, & Kaya, 2011). Teachers who want to integrate technology into their lessons should be competent in terms of not only content and pedagogical knowledge but also the potential of the technology (Öz, 2015). In this context, the concept that Schulman (1987) defines as Pedagogical Content Knowledge (PCK) and comprises teacher competences was then described by Koehler and Mishra (2005) as Technological Pedagogical Content Knowledge (TPACK) with the addition of technology.

TPACK has several definitions in the literature. Koehler and Mishra (2006) defined TPACK as teacher's ability to use technology to support pedagogical techniques with technology, to help students solve problems they encounter while learning, to consolidate existing knowledge, and to work on technology at the point of maintaining new knowledge. Niess (2008) interprets TPACK as the way teachers use 21st-century technologies to plan, organise and adapt class conditions according to the student needs. Timur and Taşar (2011) describe TPACK as effective integration of educational technologies with Pedagogical Content Knowledge in classes. With these definitions, TPACK can be defined as practical usage of the technology in the teaching-learning process and teachers' enrichment of their pedagogical content knowledge with technology.

Evidence suggests that the majority of teachers who reported negative or neutral attitude towards the integration of technology into teaching and learning processes lacked knowledge and skills that would allow them to make “informed decision” about integrating technology in their teaching context (Al- Ottawa, 2002, p.253, as cited in Bordbar, 2010). Liu et al. (2017) studied 47 pre-service Chinese language teachers’ perceptions and found that their technology use was influenced by lack of technology-related knowledge.

In a qualitative multiple case-study research on primary school teachers' competence and confidence level regarding the use of technology in teaching practice conducted in five European countries, Peralta & Costa (2007) found that technical competence influenced Italian teacher’s use of technology in teaching. However, the teachers cited that pedagogical and didactic competence as significant factors if effective and efficient educational interventions are likely to be implemented.

In Portugal, teachers reported different views regarding the essential competencies for teaching with technology. The experienced and new teachers stressed the need for technical skills and attitude. In contrast, the innovative teachers emphasised curricula and didactic competences and the student-centred teachers cited technical competence and pedagogical efficiency as significant to technology integration in teaching and learning processes. According to Peralta & Costa (2007), teachers with more experience with computers have greater confidence in their ability to use them effectively. Mirzajani’s et al. (2016) investigation on Iranian teachers’ acceptance of technology in their classrooms revealed appropriate technology skills and knowledge influenced the utilisation of technology in their classroom. Jones (2004) concludes by reporting that teachers’ technology competency relates directly to confidence. Teachers’ confidence also relates to their perceptions of their ability to use computers in the classroom.

2.6.6 Students’ technology competency and learning preferences.

Scholars stated that “most students currently in the institution are Generation Z that are generally internet users and comfortable with technologies” (Mokmin et

al., 2019, p.207). In contrast, students' skills in utilising a particular educational technology and their learning preferences have been revealed by a few studies as an element that influence teachers' beliefs to integrate technology in their teaching context (Judi, et al., 2011; Melor et al., 2012; Nordin et al., 2016; Hsu, 2016). In the Malaysian research context, a study on rural students' skills and attitudes towards information and communication technology (ICT) shows that generally, students have moderately positive attitudes toward ICT, have low to moderate level of technology competencies and have limited knowledge on the internet (Judi et al. 2011). Melor et al. (2012) reported that students' difficulties for concentrating on the materials when they use the computer, lack of enough equipment as well as access to the internet are significant contributors to teachers' beliefs in integrating technology in their contexts. A study by Nordin et al. (2016) reveals that the nature of self-directed learning in certain e-learning platforms such as MOOCs caused about half of their student participants to feel 'loss' and disoriented during learning and thus discontinued using the platform "if there was no one instructing them to act" (p.12). Embi et al. (2018) examined factors that influence ESL learners of four polytechnics' attitude and intention of using mobile learning. They discovered that students have the technology, such as smartphones for mobile learning. However, they need to be facilitated to use the device for the purpose of learning ESL and to be facilitated to have better self-management of learning.

2.6.7 Technical support

Many scholars (e.g. Bradley & Russell, 1997; Ertmer & Hruskocy, 1999; Pelgrum, 2001; Cuban, Kirkpatrick, and Peck, 2001; Egbert et al., 2002; Jones, 2004; Nikian et al., 2013; Mirzajani et al., 2016; Mei Lick et al., 2017; Liu et al., 2017) suggested that technical problems influence teachers' decisions to use digital resources. Anytime there are problems with connectivity or with devices, software, or projectors, a teacher has to be able to quickly access remedies from technical support staff, as to ensure that the lesson is not disturbed. If teachers do not have adequate technical support to back them up if things go wrong, it is a further disincentive to use technology in day-to-day classroom teaching, especially for teachers with low technology confidence. In analysing barriers for the uptake of technology, Jones (2004) identified two kinds of technical difficulties: "fear of things

going wrong", and "lack of technical support" (pp. 15-16). As for the first, there is evidence that fear of damaging equipment (Bradley & Russell, 1997) can deter teachers from even experimenting with these tools in the first place (Jones, 2004).

With regards to the second area of problems, Pelgrum (2001) ranks lack of technical support among the ten most significant barriers to adoption among primary and secondary teachers. The absence of regular maintenance increases the risk of technical failures, and therefore of the equipment being out of service for a considerable period of time (Jones, 2004). Naturally, both anxieties about damaging machines and lack of technical support are closely associated with the level of teacher trust in digital tools. Mirzajani's (et al. 2016) investigation on Iranian teachers' acceptance of technology in their classrooms revealed insufficient technical support influenced the utilisation of technology in their classroom. Liu et al. (2017) studied pre-service Chinese language teachers' perceptions and found that their technology use was influenced by a lack of technical support provided their institutions. Cuban, Kirkpatrick, and Peck (2001) assert that constant breakdowns do shake teachers' confidence in the technology. Hence, educators who use technology regularly need reliable machines to work with. Technical support is, therefore, essential to integration (Ertmer & Hruskocy, 1999), and "can be provided through on-site teacher troubleshooters, part-time coordinators, parents or business volunteers, student assistants, online help, and university business partners" (Ertmer, 1999, p. 57).

2.6.8 Institutional culture

Institutional philosophies and policies have a profound impact on teachers' pedagogical beliefs on technology integration (Strudler & Wetzel, 1999; Warschauer, 2002; Windschitl & Sahl, 2002; Saxena, 2017; Sun & Gao, 2019; Nelson et al., 2019). For example, in his three-year teacher development program in Egypt, Warschauer (2002) realised that such factors impeded teaching with technology as large class size, exam-based curricula, and more broadly, by unsupportive institutional policies. In a later work, in addition to the authoritarian political system, he identified the hierarchal structure of educational establishments as the main barrier to technology adoption in Egypt (Warschauer,

2006). In a similar vein, Al-Asmari (2005) reported that class size and curriculum feature among the hindrances to technology use by Saudi language teachers. Similar obstacles to technology integration were noted by Albirini (2006) in his Syrian educational context and Mei Lick et al. (2017) in their Malaysian context. Likewise, in a Greek study, language instructors identified “traditional” schooling systems as a barrier to technology implementation (Demetriadis et al., 2003, p. 32). Hennessy, Ruthven, and Brindley (2005), also reported that centralised educational systems like the one in place in England as well as other parts of the world give teachers limited independence, which might stop them from benefiting fully from the affordances provided by educational technologies.

Zhao and Frank (2003) explain that technology use takes place within “ecosystems” (p. 833), in which different factors interact. Consequently, no integration of technology will occur without consideration for the institution’s inner social dynamics and the external constraints they may encounter. Research by Sun and Gao (2019) which involved Chinese middle-high-school teachers as an exemplary case, reported that the school leadership was critical in the technology supported school instructional reform. However, in his study, Kimmons (2016) found out that teachers’ pedagogical beliefs and the practicality of daily teaching practice (e.g teachers wanted to integrate technology that has clear proof that it will improve what they are already doing and that can be integrated with relative ease) drove more concrete consideration to use technology than factors associated with them either in the institution or the larger culture.

2.7 Teachers’ professional development

A real change can be brought by bringing change in practices, touching people emotions and this can be done by changing material (curriculum), behaviours (new teaching approaches), and beliefs. Among all these three, “change in beliefs and understanding are the foundations of achieving lasting reform” (Fullan, 2007, p.37).

2.7.1 Defining professional development

Scholars argue that adjustments in in-service teachers' pedagogical beliefs toward technology integration in their teaching context have been associated with professional development (PD). Several studies have divulged that technology-related professional development programmes help to influence teachers' acceptance towards technology in classrooms (Samuel & Zaiton, 2006; Hew & Brush, 2007; Keengwe & Onchwari, 2008; Kumar et al., 2008; Kopcha, 2012; Ziyadah, 2012; Gilakjani, 2013; Shammari & Higgins, 2016; Alahmari & Kyei-Blankson, 2016; Alenezi, 2018). Besides, Mueller et al. (2008) and Tondeur et al. (2016) also relates technology professional development to the successful integration of technology in the classroom. Lawless and Pellegrino (2007) claimed that if a professional development program is effective, educators will be eager to involve it in pedagogical activities.

Teachers' pedagogical beliefs were argued by Pajares (1992) as a 'messy construct' due to lack of dynamic in meaning, as it had been defined according to different research contexts. However, professional development (PD) seems to have established its definition, having been consistently defined by scholars throughout decades.

In my quest to understand the concept of professional development (PD) of teachers, I agree with Avalos (2011) that this particular area has been researched and presented in the relevant literature in many different ways, but always at the heart of such efforts is the understanding that PD is about teachers learning, i.e. learning how to learn, and transforming their knowledge into practice for the benefit of their students' growth and achievement. Little (1987) describes professional development as activities that are "intended partly or primarily to prepare paid staff members for improved performance in present or future roles in the school districts" (p. 491), such as workshops, local and national conferences, college courses, special institutes, and centres (Little, 1993). On the same level, Glatthorn (1995) describes "Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically" (p.41). A broad-based view of teacher professional

development later has emerged, treating teacher learning as interactive and social, based in discourse and community practice (Cochran-Smith and Lytle 1999). Lawless & Pellegrino (2007) argue that professional development is vital to making sure that teachers keep pace with shifts in student performance standards, become familiar with new methods of teaching in the subject-content areas, learn how to make the most effective instructional use of new technologies for teaching and learning, and adjust their teaching to ever-changing school environments and an increasingly diverse student population (p.575).

In a broad sense, PD refers to the development of a person in his or her professional role (Avalos, 2011). Many scholars agree that PD takes place when teachers experience a vast range of activities and interactions that may increase their knowledge and skills and improve their teaching practice, as well as contribute to their personal, social, and emotional growth as teachers. These experiences range from formal, structured topic-specific seminars given in in-house professional development sessions, to everyday, informal discussions with other teachers about instruction techniques, embedded in teachers' everyday work lives and so on that take place in the staffroom, corridor or school canteen (Guskey, 1994 & 2003; Villegas-Reimers, 2003; Kumar et al., 2008; Ertmer, 2010; Avalos, 2011; Desimone, 2009 & 2011; Bayar, 2014; Darling-Hammond et al. 2017).

2.8 Teachers' professional development and teachers' pedagogical beliefs

2.8.1 Gaps in studies relating to teachers' professional development

Ertmer et al. (2010) stated that developing teachers' beliefs and attitudes can build a sustainable culture that supports technology as integral to teaching and learning. However, there are studies which suggest that professional development (PD) does not always result in a change in teachers' behaviour, indicating lack of success in influencing teachers' beliefs. Researchers claim that it has been studied not quite thoroughly (Guskey, 2003 & 2017 p.33; Desimone, 2009 & 2011). Fishman et al. (2001) (as cited in Lawless & Pellegrino, 2007, p. 576) reported that across all pedagogical domains, there had been a steady increase in the number

of professional development opportunities afforded to teachers over the past several years (e.g., Fishman et al. 2001). Yet, although the number of professional development opportunities for teachers has increased, scholars (e.g. Wilson & Berne 1999; Fishman et al., 2001; Leask & Younie, 2013) argue that the understanding of what quality professional development consists of, what teachers learn from it, or its influence on student outcomes has not increased to a great extent.

Guskey (2003) who examined 13 lists of characteristics of "effective professional development" (p.748) concludes that research on professional development excludes rigorous investigations of the relationship between the notable characteristics and improvements in instructional practice or student learning outcomes. Instead, it usually involves surveys of the opinions of educators and researchers. In other words, researchers and practitioners generally prefer these characteristics and believe they are essential, despite the lack of validating evidence. In line with Guskey's proposal, Desimone (2011) states that for decades, studies of professional development focused mainly on teacher satisfaction, attitude change, or commitment to innovation, rather than professional development's results or the processes that make it work. Wayne (2008) suggests the need for scholars to employ more empirically valid methods of studying professional development. Moreover, with the recent emphasis on data-driven decision making and accountability, administrators have to become more sophisticated in how they evaluate professional development in their schools (Desimone, 2011).

Commonly, they were either conducted through surveys at the end of professional development sessions on what teachers' feel or experience about the PD they attended. Guskey and Desimone argue that in order for research to get gain insights on the effectiveness of PD, research methodology needs to include other instruments than surveys, such as observation and interviews (Guskey, 2003; Desimone, 2009). Research studies using ethnographic or in-depth case-study approaches often allow the investigation of nearly all learning experiences that a teacher has during a particular study period (e.g., Denzin & Lincoln, 2002; Merriam, 1988; Miles & Huberman, 1994; Spindler, 2000; Yin & Campbell, 2003). In contrast,

studies that ask questions about trends, associations, or impacts require us to make a priori decisions that identify the teacher learning experiences on which we wish to collect data.

2.8.2 Professional development and teacher technology integration

Scholars suggest that there are connections between teachers' pedagogical beliefs and professional developments (Guskey, 2002; Desimone, 2009 & 2011; Fishman et al. 2001) and that teachers' professional development is a key factor to the successful integration of technology into classroom teaching. Several studies revealed that technology-related professional development programmes influence teachers' beliefs and attitudes towards computers (Hew and Brush, 2007; Keengwe and Onchwari, 2008; Kopcha, 2012; Ziyadah, 2012; Gilakjani, 2013; Shammari & Higgins, 2016; Alahmari & Kyei-Blankson, 2016; Hsu, 2016; Alenezi, 2018), develop both beginner and experienced teachers' competences in computer use (Bauer & Kenton, 2005; Franklin, 2007; Wozney et al., 2006), as well as assisting teachers reorganise the task of technology and how new technology tools are significant in student learning (Plair, 2008). Muller and his colleagues (2008) link technology professional development to the successful integration of technology in the classroom. In their study that involves 400 pre-tertiary teachers, they reveal that professional development and the continuing support of good practice are among the strongest determinants of successful integration of technology. Kumar et al. (2008) who studies predictors of deployment of technology among Malaysian teachers suggest "to a certain extent the existing mind-sets of most secondary school teachers have to be revamped to accommodate a paradigm shift towards accepting instead of fearing the use of technology in their context" (p.1132). They further suggest the creation of a collegial atmosphere, particularly in the conduct of technology-related professional development programmes between all teachers – both senior and junior ones. This allows the sharing of ideas and peer coaching regardless of age and teaching experience. As teachers become familiar with the applications and starting to develop confidence, they can mentor other teachers in their schools. Ertmer (2010) states that teachers' pedagogical beliefs are formed through personal experience (e.g. being exposed to and experience specific teaching and learning techniques

in ESL which were conducted by their ESL teachers both at primary and secondary schools), then changes in beliefs might also be facilitated through personal experience (observing the expert users and appointing them as mentors during implementation).

Some studies assert teacher professional development as a complex process (Guskey, 2003 & 2009; Avalos, 2011, Lawless & Pellegrino, 2012) since it is a learning process that requires cognitive and emotional involvement of teachers individually and collectively, the capacity and willingness to examine where each one stands in terms of principle and beliefs and the analysis and implementation of appropriate alternatives for improvement or change. Fullan (2007) adds that the process becomes more complicated when teachers are not given clear instructions and do not understand the need to learn new skills and then implement them in their teaching context.

Although developing teacher technological skills are essential for technology integration, literature from diverse international teaching settings has documented a marked lack of professional development in the use of technology. For example, research from Malaysia (Md Yunus, 2007; Kumar et al., 2008; Nikian et al., 2013; Mei Lick et al., 2017), United States (Baylor & Ritchie, 2002; Kessler, 2006; Hsu, 2016; Gao, 2019), Canada (Wozney et al., 2006; Saxena, 2017), Greece (Demetriadis et al., 2003; Karkoulia, 2016; Kosmidis et al., 2019), Kenya (Wabuyele, 2003, Kiilu et al., 2018; Marsingila et al., 2019), Turkey (Güven, Çakiroğlu, & Akkan, 2009; Cengiz et al., 2017), Cyprus (Charalambous & Ioannou, 2008; Soule & Papadima-Sophocleous, 2019), Egypt (Warschauer, 2002; Ali, 2018) and Oman (Al-Rabaani, 2008; Dayag, 2016; Abdelrahman & Abdelraheem, 2019) have all reported the need for professional development in technology as a requirement for technology integration. In a large-scale technology-language teacher development project in Egypt, Warschauer (2002) affirmed that although there was a moderate number of computers in schools and universities, very little was invested in professional development. This was expressed in a statement by one of the Egyptian professors in his study: “We have the hardware, we have the software, but we lack the human ware” (p. 472). In the context of the widespread

shortage in teacher education in technology, Pelgrum (2001) states that the cost of professional development might account for this lack of necessary attention.

2.8.3 Elements influencing effective teacher professional development.

According to Saxena (2017), teachers' beliefs and attitudes about technology integration is not just a personal dynamic but is influenced strongly by the support and scaffolding available to the teachers in many forms, such as the opportunities to participate in professional developments (p.64). On the same note, Sandholtz & Reilly (2004) claim that teachers' technology skills are a strong determinant of technology integration. However, they are not conditions for effective use of technology in the classroom. They argue that apart from technical issues and effective technical support, professional development programmes that focus on technology pedagogical professional development help teachers to integrate technologies in teaching and learning.

Research studies reveal that quality professional development programmes help teachers implement technology and transform teaching practices more effectively (Brinkerhoff, 2006; Diehl, 2005). Lawless and Pellegrino (2007) claim that if professional development program is of high quality, the period for professional development lasts longer, new technologies for teaching and learning are offered, educators are eagerly involved in important context activities, teamwork among colleagues is improved and has a clear vision for students' attainment.

Literature implies that for technology professional development to be effective, some considerations are to be taken into account, such as: firstly, professional development needs to focus on the pedagogical as well as technical aspects of technology use (Jones, 2003; Sandholtz & Reilly, 2004 & Mokmin et al., 2019). Gryzelius (2015) stated that in order for teachers to be able to both fully appreciate and, more importantly, to correctly and effectively incorporate technology into their repertoire of teaching practices and pedagogy, professional development is needed. This professional development has to be a mix of technical know-how, i.e. using the hardware (computers, projectors etc.) and using various software, then especially the learning platform that is being used by the school, but more

importantly, the professional development has to focus on how teachers can make the best use of these tools to enhance the learning experience of their students in their own teaching context.

Secondly, it has to be context-embedded and address the teachers' immediate needs (Putnam & Borko, 2000; Egbert et al., 2002; Vrasidas & McIsaac, 2001, Joyce & Shower, 2004; Torodova & Orburg, 2010; Voogt et al., 2011; Gilakjani et al., 2013) as for a successful PD, and teachers need to be involved in deciding on their own learning needs and take part in the learning opportunities that are school-based, continuously supported, facilitating theoretical understanding and collaborative problem solving (Kafyulilo et al., 2016). Thirdly, it has to accommodate the teachers' current belief systems and practice into account (Antonietti & Giorgetti, 2006; Chen, 2008). For instance, in the short term, while the use of technology remains low and mostly utilised through mixed-method teaching, the professional development should focus on how to adapt traditional pedagogical practices, such as lecturing, drilling and practice, and student-centred research to fit in with a new technology format. In the long-term, as the use of technology increases, the focus has to be on helping teachers grow in their role as facilitators and to build a new range of pedagogical practices more suitable for interactive teaching. Furthermore, teachers have to be instructed on how to incorporate technology into student assessment and how to use it for giving useful feedback. Chen (2008) mentioned that professional development courses must be designed to identify beliefs about successful teaching, policies for enhanced teaching and learning and syllabus design for teaching purposes.

Fourthly, teachers should be given the opportunity to experiment with what they have learned, i.e. to practice it in their classroom context (Joyce & Shower, 2004; Md Yunus, 2007; Guskey, 2010). In other words, professional development has to be on-going on-the-job-professional development. That is to say, a one-off session is most likely not going to be enough as there is not enough time to apply what was learned. When teachers are left to apply new information on their own, it usually does not happen. One-off professional development is often stuffed with too much information. When planning a learning session, the temptation looms to include as much information as possible. The problem here is that learners can only process

so much new information at one time, and if there is too much content, the important takeaways will be diluted. Another thing about one-off professional development is, it does not allow for on-going coaching. If the professional aim is to change behaviour (action), the subject matter needs to be repeated several times; teachers need to hear it, read it, see it, talk about it with others and then do it themselves.

There is a need for several sessions over an extended period of time, where teachers can get both instruction and practical knowledge. There has to be enough time between each session for the teachers to try out and incorporate what they have been learning in professional development into their teaching as to find out whether they are succeeding and whether they require further assistance. Joyce & Shower (2004) suggest that at least eight weeks are needed for teachers to learn about particular innovation and then implement it in their teaching context.

Hubbard and Levy (2006) suggested that professional development in technology and language learning should not only limited to the classroom, workshop, or other formal interactive settings (such as online courses) but also to embrace a community of practice and mentoring (p.10). Furthermore, research by European Schoolnet has shown that teachers, by and large, are much more likely to incorporate technology into their classrooms if they feel secure in using technology, regardless of the current technology policy in their workplace. Teachers who use technology extensively in their daily lives and consider themselves to be technology-savvy are more likely to bring the use of technology into the classrooms and engage with their students on virtual platforms.

There will likely be a natural generational shift towards the incorporation of technology in classrooms as younger teachers are used to extensively relying on technology in their studies and daily lives and will see it as an indispensable tool in their teaching as well. However, in order to harness this tendency, teacher training colleges have to give substantial training on how technology is best and most effectively used as a pedagogical tool, as per the discussion above intrinsically related to other factors for technology integration: availability and accessibility of technology facilities, teacher's workload, technical support,

teachers' pedagogical competence, students' technology competency and learning preferences confidence, time, and institutional culture.

Research has also shown that teachers require technology experts to show them the way to integrate technology to facilitate students' learning (Plair, 2008). Ertmer (2005) referred to this approach as 'vicarious experience', a strategy which looks at observing successful people's practices, which in turn increases the observer's confidence in generating the same behaviour (p. 33). Scholars like Ahmadi (2018) seems to support Plair's and Ertmer's idea by stating the need for teachers' to seek guidance from their colleagues who can help them teach better by using technology.

Teachers who are committed to professional development activities gain knowledge of technology integration and classroom technology organisation (Wepner et al. 2006). It is essential to allow teachers to apply technology when in their classrooms in order to be able to use the technology to supplement their teaching activities. Teachers, when given time to practice with the technology, learn, share and collaborate with peers, they will likely integrate the technology into their teaching. Professional development programmes for teachers that embrace educational practices and strategies to address beliefs, skills and knowledge improve teachers' awareness and insights in advance, concerning transformations in classroom activities (Levin & Wadmany, 2008).

2.9 Theoretical suggestions for re-shaping teachers' pedagogical beliefs on technology integration

Despite all the arguments arguing that teachers' beliefs are complex and difficult to change, some processes have been found to be effective in increasing teachers' use of technology in their practice (Ertmer, 2005; Joyce & Showers, 1995; Guskey, 1986, 2002; Koehler & Mishra, 2005; Mishra & Koehler, 2006). Guskey (1988) suggests that change in teachers' beliefs and attitudes follow the change in classroom practice, meaning that teachers need to see and experience successful teaching sessions that use suitable technology.

Ertmer (2005) further supports Guskey's proposal by suggesting three strategies that could be utilised by institutions to enhance technology integration by teachers:

i. Personal experience

This strategy includes introducing teachers to simple lessons to instigate the adoption process that bit by bit will replace their beliefs with more relevant ones. (pp. 32-33). This strategy comprises questioning one's own practice and the practices of others, making explicit assumptions and using classrooms as sites for inquiry (p. 33).

ii. Vicarious experience

This strategy looks at observing successful people's practices, which in turn increases the observer's confidence in generating the same behaviour. (p.33).

iii. Social-cultural influences

This strategy stresses the importance of a professional learning community for teachers as a means of changing their practices and beliefs as they discuss and exchange ideas, create new materials and develop new strategies for the deployment of their ideas (p.34).

Joyce & Showers' (1995) propose on 'coaching', a professional development device to assist teachers in transferring the general professional development they received on a particular teaching approach into classroom implementation. They suggest an effective professional development and coaching strategy that consists of four main components:

i. Knowledge development through exploration of theory through lectures, reading, discussions etc.

To get a thorough understanding of the purpose and rationale behind a skill, strategy or innovation and the principles that manage its use. Studying theories facilitate skill acquisition by providing a mental image to guide practice and clarify feedback (Joyce & Showers, 1988, p. 68).

ii. Modelling or demonstration of the new skill.

To facilitate development of knowledge and can be conducted in a setting closely approximate to the workplace, mediated through media/videos, or conducted live in the professional development setting.

Step 1 and 2 can be conducted at one time. Mastery of the rationale of the skills (step 1) facilitates judgement, and modelling (step 2) facilitates the understanding of fundamental theories by demonstrating them in action (ibid).

iii. The practice of skill under simulated conditions.

The closer the professional development setting approximates the workplace, the more transfer of knowledge and skill is facilitated. Joyce and Showers estimate a substantial period of time (8–10 weeks) to "bring a teaching model of medium complexity under control" (p.69)

iv. Peer coaching

The collaborative work of teachers in planning and developing the lessons and materials to implement the professional development effectively (ibid).

2.9.1 Guskey's Model of Teacher Change

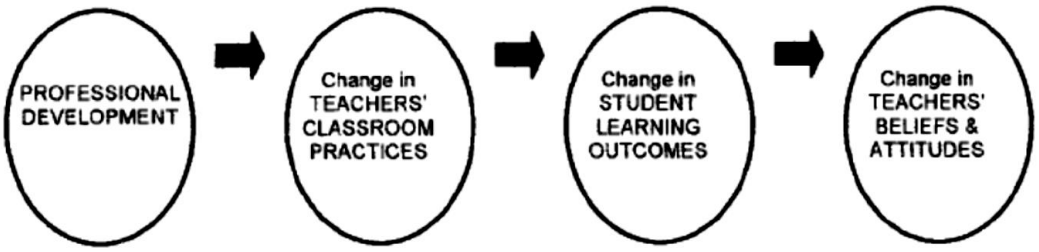


Figure 2 Guskey's Model of Teacher Change

Thomas Guskey (1986,2002) suggests that change in teachers' beliefs and attitudes does not always happen during and rightly after professional development. However, it occurs after a change in classroom practice, meaning that teachers need to see and experience successful teaching sessions that use suitable technology. In developing professional development for educators today,

Guskey suggested that majority programmes failed because they do not take into account two crucial factors; i) what motivates teachers to engage in professional development, ii) How does change in teachers' behaviour and attitude occur.

According to Guskey, most professional development programmes are based on the assumptions that change in beliefs and attitude need to come before the implementation of the new practice or strategy. Guskey suggests a different sequence of event. What he found was that significant change in teachers' beliefs and attitudes usually occurs after they see evidence of the learning outcomes of their students. In other words, it is not the professional development itself, but the experience of successful implementation that changes teachers' beliefs and attitudes. It is important to note that, for the vast majority of teachers, becoming a better teacher means enhancing student learning outcomes. In an early study of teachers' perceptions of success, for example, Harootunian & Yargar (1980) found that "regardless of teaching level, most teachers define their success in terms of their pupils' behaviours and activities, rather than in terms of themselves or other criteria" (p. 4). Bolster (in Guskey, 1986 p.8) stresses that ideas and principles about teaching are believed to be accurate by teachers only "when they give rise to actions that 'work' (1983, p. 298). He strongly argues that what teachers believe to be true is that which they have seen work with their students in their own teaching context. Therefore efforts to improve education must begin by recognising that teachers' understanding of teaching is validated very pragmatically. Without verification from the classroom, attitude change among teachers about any new program or innovation is doubtful (Fullan, 1999; Fullan & Hargreaves, 1996).

When professional development is combined with evidence of students' learning, this changes teachers' beliefs and attitude which will likely result in further changes in practice that brings an additional change in students' learning and so on.

2.10 Conclusion of the literature review

Through this literature review, I have undertaken a journey across landscapes of ESL, the utilisation of technology in ESL teaching, lecturer's pedagogical beliefs, professional development and changes in lecturers' utilisation and pedagogical

beliefs about technology. Doing so, I have obtained a clearer picture on what has already been written, to have a stronger foundation for understanding and to analyse the beliefs, actions, and changes in beliefs and actions which lies at the heart of the research questions giving shape and direction to the study as a whole.

Chapter 3: Research Methodology

> *"All researchers interpret the world through some sort of conceptual lens formed by their beliefs, previous experiences, existing knowledge, assumptions about the world, and theories about knowledge and how it is accrued. The researcher's conceptual lens acts as a filter: the importance placed on the huge range of observations made in the field (choosing to record or note some observations and not others, for example) is partly determined by this filter" (Carroll and Swatman, 2000, p. 237)*

In this chapter, I present a description of the processes that I used to carry out the investigation. I begin by restating the aims, objectives and the research questions of this study. I then write about the research design, theoretical framework and the research methodology, followed by detailed descriptions of the sampling, the data collection methods, followed by the rationale/justification for the selection. The analysis process, ethical consideration and limitations of the study will also be discussed in this chapter.

3.1 Objectives and Research Questions

In this study, I aimed to work along with a group of ESL lecturers (3-4 people) in a polytechnic in Malaysia to explore shifts in their educational beliefs and practices in using technology in their teaching contexts as they attended professional development (PD) sessions. I also aimed to identify the key factors that influence the shifts and to provide recommendations for future research, strategy and practices.

The two main research questions underpinning this study are:

1. *What are ESL lecturers' pedagogical beliefs and utilisation of technology in their contexts?*

2. *How did professional development influence ESL lecturers' beliefs and utilisation of technology in their teaching contexts?*

3.2 Research Methodology

Research is defined as a systematic and critical enquiry with the goal of generating knowledge (Ernest, 1994). Researchers conduct investigation guided by a set of beliefs or assumptions about knowledge (what is knowledge, what is knowable and how we can go about gaining knowledge) which is called a 'paradigm' (Guba & Lincoln, 1994, p. 105). Paradigm establishes the boundaries and parameters for scientific research, and "scientific inquiry is carried out strictly in line with it" (Crotty, 2005, p. 35). There are two research paradigms; positivism (quantitative) and interpretive (qualitative).

The research paradigm that I decided on is based on the three "philosophical assumptions" (Cresswell, 1998 p.74) and the answers to the three questions: ontological, epistemological and methodological (Guba & Lincoln, 1994), which help me to understand differences between paradigms. By answering these questions, which are depending on one another, I was able to choose the interpretive research paradigm.

First, the ontological question is, "What is the form and nature of reality and what is [it] that can be known about it?" (Guba & Lincoln, 1994.p.108). To answer the ontological question, I refer to the aims and objective of this study that is to explore the educational beliefs and actions of a few ESL lecturers in a Malaysian polytechnic toward technology integration in their teaching contexts and to investigate the influence of professional development on their beliefs and actions which I expect will produce a variety of responses/interpretations as the participants socially construct the reality. This study is informed by the philosophical assumption that there is no single reality/knowledge, that reality is not an objective phenomenon, but is constructed through the interpretations and understandings which were developed socially and experientially. It is "subjective and multiple, as seen by participants of the study" (Creswell, 1998. p.75). The answer is in line with an interpretive paradigm where reality (within a particular context) is socially constructed and individual behaviours (in this study, individuals refer to the ESL lecturers in Politeknik Adiwira) are being continuously interpreted (through interviews, observations) to give a meaningful explanation.

Secondly, the epistemological question is, "What is the nature of the relationship between the researcher and what can be known?" (Guba & Lincoln, 1994. p.108). The interpretive paradigm assumes that as researchers, we cannot separate ourselves from what we know. The researcher and the object of research are linked in a way that who we are and how we understand the world is a central part of how we understand ourselves, others and the world.

As noted by Radnor (2000) that understanding is reached and meanings are constructed and interpreted through the interaction between the researcher "as an instrument of data collection" (Cresswell, 1998, p.14) who collects, analyses and describes words or pictures in a natural setting and the participants. In this study, my task is to gain access to the participants, understand and get engaged in their world, and make sense of their constructed meanings. Having worked at the polytechnic before coming to this country to further my study, I have the opportunity to get easy access to the English Unit of General Studies Department at the institution. My experience of being an ESL lecturer and a current graduate student will, hopefully, enable me to build a good relationship with the participants.

Thirdly, the methodological question is, "How can the researcher find out what she/he believes to be known?" (Guba & Lincoln, 1994. p.108). The methodological assumption or belief is significant to identify the methods that will be used for gathering the research data. The nature of my research questions leads me to employ and then present a detailed view of the participants' beliefs and experience in using technology in their teaching contexts and to explore how their beliefs and actions are influenced by professional development. I hope that by exploring, investigating and understanding the phenomenon through the participants' perspectives, explanations are presented at the level of meaning rather than cause (Ritchie & Lewis, 2003). Exploratory methodology allows researchers to discover and uncover the participants' beliefs and how this link to their actions (Ritchie & Lewis, 2003), searching for meanings in their words and actions.

The philosophical assumptions which I have discussed above indicate that my research interest is largely subjective and qualitative in nature. Therefore, I can

identify myself as an interpretive and qualitative researcher and thus aim to follow the interpretative paradigm to explore, interpret and understand the beliefs and actions of ESL lecturers at Politeknik Adiwira toward the use of technology in their teaching contexts and how these are influenced by professional development so to allow suggestions for actions to be made to help them to effectively implement technology in their teaching contexts.

An interpretative paradigm is an approach which perceives that all social reality is created by social interactions (Esterberg, 2002). It is also known by other names, including flexible (Robson, 2006), constructivist, naturalistic and the qualitative approach to educational research (Ernest, 1994).

Qualitative research is conducted in a natural setting where words or pictures are collected and analysed inductively in order to interpret the participants' viewpoints (Cresswell, 1998). According to Radnor (2002), the interpretive research "is trying to come to the understanding of the world of the research participants and what the world means to them" (p.29). Qualitative researchers study individuals with their many different human behaviours, opinions and attitudes (Cohen et al., 2007). Cresswell (1998) defines qualitative research as,

> "*An inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting" (p.15)*

Methods used in qualitative research were developed to allow investigation of a phenomenon in its natural setting (Ritchie & Lewis, 2003). Qualitative research places emphasis on understanding through looking closely at people's words, actions and documents, while quantitative looks past these words, actions and documents to their numerical (statistical) significance. The strengths of the quantitative approach are in testing hypothetical generalisations (Hoepfl, 1997)

and determining the correlation between two measurable phenomena (Cresswell, 1998). However, both quantitative and qualitative research are valuable. Qualitative research should not be viewed as an effortless substitute for a quantitative study. According to Creswell (1998), qualitative research requires a researcher to:

i. Commit to extensive time in the field
ii. Engage in the complex, time consuming of data analysis
iii. Write long passages, because the evidence must substantiate claims, and the writer needs to show multiple perspectives.
iv. Participate in the form of social and human science research that does not have firm guidelines or specific procedures and is evolving and changing constantly. (p.17)

Based on the reviewed literature, most of the studies that investigated phenomenon related to educators' beliefs such as perceptions and cognition toward technology in their teaching contexts employ qualitative research (Johnson, 1994; Bigatel, 2007; Md. Yunus, 2007; Alabaikan, 2010; Attia, 2011). Apart from my philosophical (ontological, epistemological and methodological) assumptions, my research questions that start with 'what' (Yin, 2007; Creswell, 1998) and my methodology inform me to use a qualitative approach which is more suitable and effective to explore subjective meanings within a culture, understanding beliefs and knowledge and interpreting the culture and social traditions (Creswell, 1998). I believe that using a qualitative approach to explore the beliefs and knowledge in this study will provide the participants with the chance to describe their teaching experiences from their perspective. Qualitative methods are suitable to be employed in this study to effectively understand the phenomena (in this case, the use of technology by ESL lecturers in a Malaysian polytechnic) where little is known or when a researcher intends to identify the variables that might later be tested statistically (quantitatively) (Hoepfl, 1997).

Consequently, I will use qualitative methods to gather rich descriptive data in my attempts to facilitate the exploration of the phenomenon. Four types of qualitative methods were employed for data collection: interviews, observations, online discussions and focus group interview.

3.3 My role as the researcher

The epistemological assumption of qualitative research that the researcher as a key instrument has significant implications for my roles and responsibilities. According to Lincoln and Guba (1985), a qualitative researcher must do three things:

i. Adopts the position suggested by the characteristics of the interpretive paradigm
ii. Develops the necessary skills for collecting and interpreting data
iii. Prepares the appropriate research design with accepted strategies for naturalistic inquiry

After recognising my research paradigm and my role as a qualitative researcher, I am responsible for selecting the appropriate methodology for my research questions, constructing the data gathering methods, deciding on the sampling, collecting data and later, managing the analysis and interpretation of the data.

Owing to the social nature of the interpretative research, my relationship (as a researcher) with the participants of my study unavoidably covers all aspects. My skills as a researcher can be evaluated by my "theoretical sensitivity" (Hoepfl, 1997) that comes from multiple resources like professional literature, professional experiences and personal experiences. Strauss and Corbin (1990) describe this concept by stating "Theoretical sensitivity refers to a personal quality of the researcher. It indicates an awareness of the subtleties of the meaning of data….[It] refers to the attribute of having insight, the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent(relevant) from that which isn't" (p.42). Consequently, I believe that both my professional and personal experiences in teaching and researching will help me to be sensitive to the data and make appropriate decisions and suggestions to the field.

3.4 A Case Study Approach

After establishing my study within an interpretive paradigm, I have to choose a suitable approach for my investigation/inquiry. There are several research traditions in qualitative research, namely ethnographic studies, phenomenological studies, grounded theory studies and case studies (Robson, 2002; Creswell, 2007). I chose the case study approach for my inquiry based on the following two rationales:

i. The definition of a case study and the main characteristics of this approach
ii. The relationship between the characteristics and this study.

3.4.1 Definitions and characteristics of a case study

Based on the reviewed literature, researchers perceive case study in different ways, depending on what they mean by 'a case'. Robert Yin (1994, 2009) defines a case study as:

i. "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p.13).
ii. "copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis" (p. 18).

Robson (2002) highlights the important points from the definition and characteristics as defined by Yin (1994, 2009) above about a case study that it is:

i. a strategy, i.e. an approach, rather than a method, for example interview or observation;

ii. empirical in the way of depending on the collection of evidence about what is going on;
iii. about the ‘particular’, which means it is a study of that specific case;
iv. concentrated and focused on a ‘phenomenon in context’, typically in conditions where the boundary between the phenomenon and its context is not clear; and
v. carried out using ‘multiple methods’ of evidence or data collection (p.179)

Other educational researcher such as Stake (1995) defines a case study as “the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances” (p. xi) as he perceives a case as the actual ‘object’ of inquiry rather than a methodology. He further argues by mentioning that Louis Smith, one of the first ethnographers in the field of education, defines a case as a ‘bounded system’ and as such, perceives it as an object of investigation rather than a methodology.

On the other hand, Merriam’s (1988) view of a case study focuses on the descriptive and analytical aspects of inquiry. She defines a qualitative case study as “an intensive, holistic description and analysis of a single instance, phenomenon, or social unit” (p. 21, emphasis added).

In relation to definitions of a case study, I found that Creswell’s (2007) definition of a case study as the more inclusive, as he accepts a case study as a strategy, an object of inquiry, and a description.

Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audio-visual material, and documents and reports), and reports a case description and case-based themes. (p. 73)

Based on the reviewed literature, I have identified a number of general characteristics associated with case study investigation which could be synthesized as follows:

i. Case studies concentrate on investigating particularity, uniqueness and complexity of an individual, a situation or group of interest or concern (Robson, 2003; Cohen, et al., 2007; Stake, 1995, 2005; Simons, 2009)
ii. Cases are inspected "in its context" (Robson, 2002, p. 89) which could be organizational, geographical, institutional (Cohen, et al., 2007), socio-cultural, political, economic, ethical (Stake, 2005), or other contexts that allow some kind of border to be defined around the case (Cohen, et al., 2007).
iii. Case studies concentrate on rich accounts and result in detailed records, or what Geertz (1973) referred to as "thick description" (Merriam, 1998; Stake, 1995, 2005).
iv. Case studies draw on multiple data collection methods/techniques such as interview, observation and documentary analysis (Robson, 2003; Creswell, 2007; Punch, 2009; Yin, 2009).
v. A case study takes different forms, depending on the purpose of inquiry.

Stake (1995, 2005), divides case studies into three categories: first, an intrinsic case study focuses on a specific case because of its special concern to the researcher such as an English as a second language (ESL) lecturer who decides to study a student experiencing difficulty in mastering certain language skills, or a professional development coordinator who decides to evaluate a particular professional development programme. Second, an instrumental case study focuses on an issue of interest. The case is still closely examined within its bounded context because it improves our understanding of that issue. The choice of the case is informed by the issue in question. An example of this type of a case study is choosing an ESL lecturer to investigate, observing largely at how she teaches but giving specific attention to how she teaches her students to pass a particular examination and whether or not it affects the use of technology in her practice. Third, a multiple case study or a collective case study is an instrumental case study that is extended to a number of cases.

3.4.2 Relating the definition and characteristics of a case study to my research

As a research approach, case studies have been used in investigating lecturer's beliefs, particularly toward technology integration in their practices (Ertmer 2005; Bigatel, 2004). Calderhead (1996) mentions that the knowledge of what lecturers think and know (thoughts) and their classroom practices have been effectively generated by in-depth/detailed case studies using different kinds of observational and interview procedures (p.712).

In line with the definition and characteristics of a case study, particularly with Creswell's (2007) inclusive/encompassing definition, I use the term 'case' or 'a case study', to refer to my research approach. Based on Stake's characteristics of case studies, I found that my research inquiry that is to investigate ESL lecturer's educational beliefs toward the use of technology in their teaching and to study some possible influences that affect the integration of technology in their classes situates between the three categories of case studies. Stake (1995) acknowledges researchers' predicament or dilemma to sort case studies into a suitable category which they "often cannot decide" (p.4). Consequently, I decided to choose an 'instrumental/multiple case studies' (Stake, 1995, p. 3), which is also known as 'multiple individuals case studies' (Robson, 2004, p. 183; Creswell, 2007, p.114) approach for this research, which is consistent with the situated nature of this study, allows for in-depth understandings and rich descriptions (from several cases/participants) of the issue under investigation and emphasizes contextual uniqueness and complexities (Cohen, et al., 2007; Stake, 1995, 2005; Simons, 2009).

3.4.3 Identifying the Case

In a case study research, a case "can be virtually anything" (Robson, 2004, p.180), but case selection is one of the challenges in undertaking this type of inquiry (Creswell, 2007). Informed by a specific area of investigation and corresponding research questions, here I discuss a number of criteria for selecting the cases.

3.4.3.1 The criteria for identifying the case

Case study research is not an inquiry that is based on statistical sampling but rather on thoughtful/critical selection of cases (Stake, 2007; Silverman, 2003). Silverman (2003) acknowledges that “sampling in qualitative research is neither statistical nor purely personal: it is, or should be, theoretically grounded” (p.143).

Theoretical framework and research questions play an essential role in the selection of cases. Therefore, the first criterion that guides my decision making should be: which case(s) can I learn the most from? (Stake, 1995). Given the nature of this inquiry, the procedure commonly used in case selection is what Patton (1990) refers to as “purposeful sampling” (p. 169) described as follows:

> *“The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposeful sampling. (p. 169)”*

3.4.3.2 Identifying the Cases in This Study

This research is situated in the English Language Unit (ELU), Department of General Studies, which establishes the defined context or the bounded system of this case study inquiry. At present, it has about 16 full-time ESL lecturers. I take some points into consideration when selecting my cases:

First, I decided to use a multiple-case study approach in order to acquire an in-depth understanding of the ESL lecturers' pedagogical beliefs toward the use of technology in their practice. However, due to restrictions on time and resources, and to allow for the detailed investigation of the cases, I decided to limit the number of cases (research participants) to two lecturers.

Second, I limit/confine my search to full-time in-service lecturers for a number of reasons: i) these lecturers have a longer teaching experience in the institution and is more likely to hold firm beliefs about teaching and learning. ii) In-service lecturers have more access to technology as they teach longer hours in the classrooms, in addition to being given a personal computer by the institution.

Third, in order to gain in-depth insights into lecturer's beliefs, I am particularly interested in working with lecturers who have minimal use of technology in their practice but who are interested to try out using it in their teaching contexts. I decided to select lecturers who are on different stages of the technology ladder, and show a variety of viewpoints/opinions on using innovations in teaching English as a second language. In this way, my purposeful sampling approach is the "maximum variation" type (Merriam, 1998; Miles & Huberman, 1994; Patton, 1990). This will allow rich data on lecturer's beliefs and knowledge on technology, and provide a clearer understanding of the inquiry.

Fourth, as I am also interested in developing a broader understanding of the uniqueness of the lecturers' shared context, I choose lecturers who have a similar profile to other in-service lecturers in the ELU, particularly in terms of previous lecturer education experiences (both are B.Ed holders), and current work environment (both work at the same unit and department). In this way, I am also looking for a "typical" cases sample (Merriam, 1998; Miles & Huberman, 1994; Patton, 1990), so the cases are going to be different in terms of lecturers' choice of technology integration, but similar in terms of professional background.

Several factors facilitated the selection of cases. First, given my former work experience at the institution, I have some 'insider knowledge' about the lecturers' use or non-use of technology resources within the institution, which helps me to identify potential cases. Second, lecturers who are interested in educational innovations or have used technology in their teaching are very limited in number. Since my area of investigation is exploring lecturers' beliefs toward technology utilisation in their practice, I selected my cases from this group. Third, one of the data collection instruments used in this study is a semi-structured interview. The

first interview session was conducted at the beginning of the study. One of its main objectives was to confirm my selection of cases.

3.4.3.3 My Cases

Annabelle

Annabelle has been teaching ESL courses for 17, holds a B.Ed in English Language Teaching (ELT) from the United Kingdom and obtained her MA from a local university.

Ella

Ella has been teaching ESL courses for 8 years, holds a B.Ed in Teaching English as A Second Language (TESL) and an MA from local universities.

3.5 Methods of Data Collection

Lecturer's pedagogical beliefs are not visual. Exploring it suggests dealing with hidden aspects of lecturer's professional lives, and thus, this requires a careful selection of data collection methods (Borg, 2006; Ertmer, 2005). Data collection methods that I used in this investigation are semi-structured interviews, observations, and participants' journal, which was then replaced by online group discussion (OGD) sessions, initially using Facebook as a platform. However, following the participants' preference and request, Whatsapp was used as the new OGD platform. A focus group interview session was conducted at the end of my fieldwork.

A pilot work (see Appendix I) which I conducted earlier with an ESL lecturer of other polytechnic allowed me to trial and refined all the research methods before the commencing of the data collection period. The fieldwork took place in the English Unit, General Studies Department, Politeknik Adiwira and lasted for about three months (Jan 2015 – April 2015). Next, I present a detailed account of the instruments that I used, and the justifications for selecting them.

3.5.1 Semi-structured interviews

My research questions are arranged in such a way for me to understand a phenomenon in order: what are lecturers' beliefs about teaching ESL and their use of technology in their teaching contexts, and, how have these beliefs and practices been shaped by professional development programmes, and what are other influences that affect these lecturers' use of technology in their teaching contexts?

I believe that the methods that I used to gather the data that would answer my research questions in a more effective way should be in order too. Bearing in mind the characteristics of a qualitative case study (Stake, 1978, 2005), the aim to obtain multiple perspectives, and ensure holistic interpretation and account (Creswell. 2009), and the need for systematic procedures (Golafshani, 2003), I decided to use three main methods of data collection, and two secondary choices. There were individual interviews, observations and focus group session as the main methods, with document analysis and a researcher diary as an additional means of accurately representing the "methodology in action" (Mercer, 2004, p.138).

My decision to use this interview approach was shaped by a number of considerations. An interview is described as "the most often used method" (Dornyei, 2007 p.134) in qualitative inquiries by many social science research textbooks (Cohen et al., 2011; Creswell, 1998, Creswell, 2008; Robson, 2002; Punch, 2009; Silverman 2009). It is often used as a primary research tool that "provides an opportunity for detailed investigation of participants' personal perspectives" (McDonough & McDonough, 2004 p. 181). The literature has suggested that in general, there are three categories of interviews, namely structured, semi-structured and unstructured (Merriam, 1998; Punch, 2009; Robson, 2002). Structured interviews restrict researchers to a fixed number of specific questions which are usually asked in a certain order, while unstructured interviews allow questions to be generated in spontaneity, along with the natural progression of the conversation. Semi-structured interviews, on the other hand, offer "the best of both worlds" (Freebody, 2003, p. 133). Questions in semi-structured interviews are normally framed by certain themes, but the conversation is not restricted to follow a specific order.

In lecturer thinking (particularly about beliefs and knowledge) research, interviews have often been used (Johnson, 1994; Calderhead, 1996; Bigatel, 2004; Mangubhai, Marland, Dashwood & Son, 2004; Borg, 2006; Alabaikan, 2007; Attia, 2011) as they allow the researcher to know more about what lecturers' have in their minds (Borg, 2006), which are considered to be mostly implicit (Clark & Peterson, 1986) as lecturers are rarely given the opportunity to articulate and make them explicit (Mangubhai, Marland, Dashwood & Son, 2004). Getting lecturers to articulate implicit beliefs and knowledge can pose complexities and inconveniences which are possible to be reduced to a certain extent "by creating a climate conducive to lecturer reflection and disclosure of details" (Mangubhai, Marland, Dashwood & Son, 2004, p.5) of what they believe and know. Their participation and engagement in these introspective processes could possibly be encouraged and persuaded by "interviewers being emphatic, supportive and non-evaluative, asking open-ended questions, seeking clarification and extension of the lecturers' remarks and using the language of the lecturers where possible" (Mangubhai, Marland, Dashwood & Son, 2004, p.5).

Patton (1990) elaborates on the purposes of interviews by stating that:
"The fact of the matter is that we cannot observe everything. We cannot observe feelings, thoughts, and intentions. We cannot observe behaviours that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organised the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things. The purpose of interviewing, then, is to allow us to enter into the other person's perspective." (p. 278)

As lecturers' pedagogical beliefs are largely implicit or hidden (Clark & Peterson, 1986) and cannot be interpreted directly from their behaviour (Kagan, 1992), I chose to use a semi-structured interview as it is a well-established method in research on lecturer thinking dating back two decades (Johnson, 1994; Calderhead, 1996; Bigatel, 2004; Alabaikan 2007), which has been proven to be effective (Mangubhai et al. 2004). Semi-structured interviews give lecturers the opportunity to express and share their experiences and thoughts in a nonchalant

environment without being restricted by a particular set of questions. Also, this flexible structure provides the opportunity for the researchers to “cover themes relevant to their inquiry” (Mangubhai et al., 2004, p. 5).

Although interviews are commonly used in lecturer thinking research, they are often sufficient to a certain degree. As I mentioned earlier, lecturers are rarely given the opportunity to articulate and make their thoughts about beliefs and knowledge explicit (Mangubhai et al. 2004). Plus, given the tacit nature of beliefs and knowledge, lecturers themselves may be unaware of their mental process, or be able to express them (Calderhead, 1996; Munby, 1984). Thus, a direct question such as “What is your philosophy of teaching?” is often a less effective way to elicit beliefs (Kagan, 1992a, p.66). Moreover, lecturers tend to give general idealised responses when they are asked abstract, context-free questions about their beliefs (Woods, 1996). This informs me and makes me aware that interviews, on their own, are insufficient in exploring lecturer’s beliefs and knowledge (Borg, 2006). Hence, other strategies for data generation that give close attention to the lecturers’ contexts have been employed, such as observations (Fang, 1996), online group discussions and focus group session.

3.5.1.1 How the interview sessions were carried out

I was given permission by my sponsor to go back to Malaysia to do my fieldwork for only three months (5/1/2015-3/4/2015). I was aware of some challenges where I had to deal with time and financial constraints. Thus, I knew how crucial it was for me to quickly get access to my research context and gain trust from the research participants. I left the institution for about 4 years prior to my fieldwork, and I knew that during my absence, my department had been experiencing the departure of a few staff who were once my colleagues who knew me and the arrival of several new staff who have no idea of who I am. I was aware of the importance of the establishment of trust between me as the researcher and ESL lecturers as my research participants and I too, was aware of the implications of not having their trust (Emmel, Greenhalgh & Sales, 2007), that I would not be able to obtain my data. I contacted 2 colleagues who, after reading and understanding details about my study, agreed to become my ‘gatekeepers’. Gatekeepers, as defined by

Creswell (2008), are individuals at an institution who provide access to the study field and help researchers locate people and identify places for their research study.

Once I obtained the ethical approval from the university in early December 2014, I started to send the participant information sheet (PIS) and consent form via email to the lecturers (my potential research participants), who showed interest to participate in my research and who were introduced to me earlier by my gatekeeper. The plan was to give them at least two weeks to read and understand some details about the study and what they were expected to do as research participants. Then I planned to conduct long-distance interviews online, via Skype, two weeks before the fieldwork started (January 2015) so that I had adequate time to look at my initial data (as the baseline/starting point) and prepare for the next step, the classroom observations. This was the best way I thought that I could do to 'stretch' the fieldwork.

However, this did not happen for a number of reasons. The online interviews were supposed to take place in mid-December. Since the institution's academic semester started in early December, during this time, the lecturers were busy meeting their students for the first time, organising events, attending meetings and professional developments in and outside the institutions. Though initial contacts with them were established earlier on through a gatekeeper, the lecturers were too occupied during this particular time they either took longer time to respond to the asynchronous messages I sent to them or, they did not respond at all. Two of them who initially agreed to be interviewed on Skype before Christmas and New Year's long break, had to withdraw from the session as they were instructed to attend a week professional development at other institution. Other lecturers who remained at the institution claimed that they could not find time to sit in front of their PC/laptop as their working hours (8.30am-5.30pm) were filled with workloads.

Since plan A did not work, I had to opt for plan B: to see the lecturers and conduct the interview face-to-face. I knew that I had limited time to do my fieldwork, so I started to work as soon as I recovered from jetlag, in week one. Despite all the challenges that I had to cope with such as getting the necessary equipment and

tools (mobile wi-fi and communication devices) to set up my base/work station at my sister in-law's house, finding means of transport to travel to the institution etc., I managed to contact the four ESL lecturers and made appointments to see them in the following week (second week of the fieldwork).

Two of them are my ex-colleagues and the other two joined the institution after I left to do my doctoral degree here at the University of Manchester. My earliest attempt to connect to the two lecturers who did not know me was through social network site such as Facebook. Two of them became my friends on Facebook. I wanted them to know a little bit about me from my Facebook profile. However, I noticed that after receiving the PIS which contains some details of my research and what are expected from them as participants of the research, two of them started to 'distant' themselves by not responding to my messages.

From the conversation that I had with my gatekeeper, I learnt that these lecturers felt uneasy after reading the participant information sheet which contains some explanation about my study and what they were expected to do as research participants. The gatekeeper informed me that the part that the lecturers felt most anxious about was the observation part. I discovered (about the fact that I was well aware of, based on my experience as a staff who previously worked at the institution) that lecturers felt apprehensive about the idea of 'being observed' since the word 'observation' in their context had always been associated with 'negative experiences' due to misconceptions and misunderstanding of the actual meaning and purposes of classroom observation by both the observers (often senior lecturers or those who hold positions like Head of Unit and Head of Department) and the lecturers (often, junior lecturers). Of these two lecturers, one of them finally said no to my invitation to become my research participants.

Along with other data collection instruments, semi-structured interviews were administered both in English and Malay with the three (then only two) lecturers. All the interviews were held in a convenient and informal environment on campus. Each participant was supposed to be interviewed three times; the first interview session was conducted for about "1 hour" (Creswell, 1998 p.122) on a "one-on-one basis" (Creswell, 1998 p.124), using an interview protocol which I adapted

from Schimdt et al. (2009) (See Appendix A). Through semi-structured interview that lasted up to 40 to 50 minutes each, I explored the lecturers' pedagogical beliefs about the teaching and learning of English as a second language (ESL), their feelings about the use and value of using technology in ESL teaching contexts and factors that influenced their beliefs and practice. The second interview was carried out after the classroom observation session, and third interview session was conducted after Professional Development 2 (PD2). When the institution re-opened in the final week of February, all the participants were so occupied with their teaching and non-teaching activities, I found it so hard to communicate with them. This particular situation triggered my decision to conduct a focus group interview, which I managed to carry out in mid-March 2015.

All interviews were audio-recorded then transcribed. I conducted multiple interviews with all the participants using several approaches: face-to-face, mobile messaging applications, e.g. WhatsApp Messenger and email.

I had emailed the informed consent forms to the lecturers a few weeks before each interview was conducted. I made sure the lecturers read and signed the informed consent form as required by The University of Manchester for ethics purposes.

The interviews with the two lecturers are my primary data source. I asked them questions in the order they are presented in the interview protocol. There were times where the lecturers struggled to answer some questions. I was aware of this challenge, as lecturers themselves may be unaware of their own mental process, or be able to express them due to the implicit nature of the beliefs and knowledge (Calderhead, 1996; Munby, 1984). Plus, lecturers are rarely given the opportunity to articulate and make them explicit (Mangubhai et al., 2004). When a lecturer struggled to answer a particular question, we moved on, returning later to an unanswered question. Usually, the following questions stimulated their thoughts and provided clues about how they could answer prior questions (Bigatel, 2004). During this process, I gave the lecturers ample time to think, reflect on and consider responses they were about to give as I did not want them to feel stressed and forced to respond before they were ready. Consequently, I obtained more detailed

reflective answers that (hopefully) reveal richer dimensions of the lecturers' thoughts and experiences.

I used a digital recorder (Sony – a reliable brand) to be able to focus on the interviews and allow the data to be captured more accurately. I took notes to clarify any ambiguity in the transcription. I conducted follow-up interviews by email and mobile messaging applications, to clarify the participants' responses, or asked further additional questions to gain more data/detail. After transcribing each interview session, I made notes of my general impressions, and then I typed the interview data into Microsoft Word.

3.5.2 Observation

"Saying is one thing; doing is another"
Montaigne

In this research, I developed a rigorous data collection procedure through multiple data collections to increase the credibility of the study. I conducted classroom observations following semi-structured interviews to reduce imprecise information gathered from the interviews to answer my research questions more effectively. Observation, like interviews, is an essential aspect of qualitative research (Patton, 1990; Cohen et al., 2011; Flick, 2009; Punch, 2009; Robson, 2002). Besides, it is argued that the term field study and fieldwork imply interviews and observations more than any other sources of data collection (Merriam, 1998).

Observation has several merits, especially since it allows researchers to gather "live" information from daily settings (Cohen et al., 2007, p.396). Owing to the situated nature of observation, it tends to be "particularly context sensitive and ecologically valid" (Deanscombe, 2007, p. 224). In a qualitative inquiry, observation is commonly used in an exploratory stage, to look for and to find out "what is going on in a situation" (Robson, 2002, p.311). It is also used as a "supportive or supplementary method" (Robson, 2002, p.311) to gather data that may complement data collected by other strategies such as interviews, where the observation conducted after the interviews might be used to verify or validate the

information obtained in the interviews. The literature on qualitative research has stressed the use of observations in combination with other sources of data (Adler & Adler, 1994; Allwright, 1988; Merriam, 1998). Within the area of lecturer thinking, since lecturers may exhibit similar behaviour for totally different motives (Kagan, 1992a), observation is not used as a singular method of data collection. Instead, it is associated with other instruments, such as interviews and stimulated recalls (e.g., Borg, 2006; Calderhead, 1981, 1996; Golombek, 1998; Woods, 1996).

The literature has suggested that in general, there are two categories of observations, namely structured or formal, and unstructured or informal observations (Robson, 2002; Simons, 2009; Cohen et al., 2011). In structured or formal observation, researchers have a pre-specific or particular agenda which they focus on while observing and ignore the rest for the purposes of the investigation. Although it is argued that it is easier to achieve high reliability and validity with this approach, "but at the loss of complexity and completeness by comparison with the informal route (unstructured observation)" (Robson, 2002, p.313).

In unstructured observations, researchers observe the setting without being restrained by pre-set criteria. They are allowed substantial freedom in what information they want to collect and how they want to record it, such as note-taking and information-gathering from the participants. The information yielded from this type of observation is "relatively unstructured and complex, and requires the observer to perform difficult tasks of synthesis, abstraction and organisation on what is to be observed" (Robson, 2002, p.313).

It is argued that the second type of observation usually gather detailed descriptions and are common in case study research (Simons, 2009). Nevertheless, since field observation is "purposeful looking" (Richards 2003, p.110) which is guided by certain research interest, one could argue that in reality, unstructured observation in qualitative inquiry is unlikely to exist. In addition, since it is impossible for us to observe everything in a certain context, what we observe should be guided by our area of interest and research questions (Merriam, 1998; Simons, 2009).

While doing observations, researchers might adopt different roles depending on their observation purpose and objective. Gold (1958) classifies researchers' roles into several groups:

- Complete participant: The researcher interacts with the participants but his/her identity is not revealed to them. This covert observation has, of course, ethical inquiries relating to the role of the researcher.
- Observer-as-participant: A researcher who opts this role for observation makes his/her identity known to the participants. However, interaction with them usually is formal and brief.
- Complete observer: As a 'complete observer', the researcher has no social contact with the observed who are not aware that they are being observed. A researcher who chooses this role is probably preparing for a more active observation.
- Participant-as-observer: The researcher's identity is made known to the participants. While observing he/she participates in the participants' activities and develops good relationship with them. The literature has suggested that in qualitative research, this type of observation is a well-established practice (Cohen et al., 2011; Deanscombe, 2007; Moyles, 2002; Punch, 2009; Richards, 2003; Robson, 2002; Silverman, 2006), and is often perceived as the backbone of every social inquiry (Atkinson & Hammersley, 1994).

This could suggest that all social research is a form of participant-as-observer observation, since we cannot carry out investigation about the social world without being part of it. From this viewpoint, this particular type of observation is not a specific technique, but a mode of being- in-the world characteristics of researchers) (p.249).

As for the use of observation in lecturer thinking research in specific, Borg (2006) affirms the key role played by this strategy in exploring beliefs "by providing a concrete descriptive basis in relation to what lecturers know, think, and believe can be examined" (p.231). Given the close connection between what is known and

believed by lecturers and their classroom practice, classroom observation is especially useful in identifying the congruence/similarities and lack of congruence between their knowledge, beliefs and classroom practice. According to Argyris and Schön (1974), when people are probed about their behaviour in a particular situation, usually their reply reflects their "espoused theory of action", which is the theory they adhere to and transmit to others. Nevertheless, the theory that genuinely directs their behaviour is their "theory-in-use", which might or might not consistent with their espoused theory. Thus, Argyris and Schön suggest that "we cannot learn what someone's theory-in-use is, simply by asking him or her. We must construct his or her theory-in-use from observations of his behaviour" (pp. 6-7). However, the conflict between lecturers' stated beliefs and their actual classroom practice is not always attributed to inconsistencies on the lecturers' part, since contextual factors may account for this tension (Borg, 2006).

Informed by all the relevant justifications suggested by the literature which I have discussed in the above paragraphs, I decided to become an 'observer-as-participant' and conduct 'unstructured' observations with "a purposeful looking" (Richards, 2003, p.110), that is to look for and to find out "what is going on in a situation" (Robson, 2002, p.311). This includes looking for any evidence of technology integration in lecturers' teaching practice, gaining an understanding of lecturers' use of technology in their teaching contexts before and after attending professional development programmes and finding out other influences (apart from lecturers' pedagogical beliefs) that could contribute to their decision whether to use technology in their classroom or not. The observation was also to be used as a "supportive or supplementary method" (Robson, 2002, p.311) to gather data that may complement and validate the data collected during the interview sessions.

My initial plan was to carry out observations after conducting the first interview sessions to gather relevant data on the participants' technology integration in their teaching context. However, this did not happen since not all participants were available to be observed a day or two after being interviewed, as they have teaching and non-teaching commitments that needed to be fulfilled such as attending meetings, professional developments, managing students' activities etc., The gaps between each interview and observation session allowed me to perform

data management activities such as transcribing and organising the data set which I had gathered. Apart from going to participants' classrooms, I also managed to observe two professional development programmes; one institutional professional development and one in-house professional development session. The data that I obtained from the observation sessions allowed me to "to see things that might otherwise be unconsciously missed and to discover things that participants might not freely talk about in interview situations" (Cohen et al, 2007, p.396).

3.5.2.1 How the observation sessions were carried out.

In this study, observations were used following semi-structured interviews to decrease imprecise information gathered from interviews. In order to answer my research questions effectively, I initially planned to observe each participant in their classrooms twice.

However, due to some constraints, this did not happen as I only managed to visit their classrooms, once (this disadvantage was supported by reflective journal/discussion that took place online, which I wrote in the next section). Lecturers (especially the newly appointed ones who had not yet known me) as discussed in the interview section, were initially nervous about the idea of being observed. Previously I had mentioned about the conversations that I had with my gatekeeper before the commencing of the fieldwork, regarding lecturers' responses toward the invitation to participate in my study. I was informed that some lecturers felt somewhat apprehensive after reading the participant information sheet, which contains some explanation about my research and what they were expected to do as research participants. The gatekeeper informed me that the part that the lecturers felt most anxious about was the classroom observation part. I was well aware of this as critics argue that observation "creates an unnatural situation in the classroom, produced anxiety for the lecturer…" (Ward, 2004 p.23). While perhaps there are some truths in these criticisms but I still need to proceed with this strategy as I believe it is the most suitable strategy to complement and corroborate the data gained in the interviews (Robson, 2002), which I was sure would be able to provide me with another interpretive perspective on lecturers' beliefs, knowledge and experience in using technology in their teaching contexts.

I discovered (about the fact that I was well aware of, based on my experience as a staff who previously worked at the institution) that lecturers felt discomfort about the idea of 'being observed' since the word 'observation' in their context had always been associated with 'negative experiences' due to misconception and lack of understanding of the actual meaning and purposes of classroom observation by both the observers (often senior lecturers or those who hold positions like Head of Unit and Head of Department) and the lecturers (often, junior lecturers) themselves. Bearing these facts in mind, I realised that I needed to come up with a strategy to make the observations more "palatable" than "evil" (Ward, 2004, p.23).

Going back to the epistemological assumption (Guba & Lincoln, 1994) of this study (refer to Research Methodology: paragraph 4) as a qualitative inquiry where "researcher attempts to lessen the distance between himself or herself and that being researched" (Cresswell, 1998 p.75) by becoming an insider who collaborates and spends time in the field with participants, I decided to approach the lecturers "in as sensitive and encouraging a manner as possible" (Ward,2004 p.23) or in other words, in a less-threatening way. I knew that to a certain extent; I wanted them to see me not only as an outsider who just came to their department to gather some data since "total detachment can come across as anti-social and itself cause reactions from those observed" (Robson, 2002, p.311). Instead, I wanted them to see me (at least) as somebody who had a genuine interest to know and understand them and the challenges they face in using technology in their teaching contexts. So when I was invited to take part in some activities conducted by the English Language Unit and the General Studies Department, I accepted them. In week 3, for example, I worked with Ella and other English language lecturers to prepare certificates and gifts for students who participated in various competitions conducted during the Language Carnival week.

Such acts, to a certain extent, had managed to gain these lecturers' trusts. During these time, communications between us were established, starting from formal and limited conversations about our responsibilities as the event committee members, into a more open chat about themselves, workloads and families. However, at this

stage, I realised how important it was to maintain a sensible balance as "to be highly involved risks compromising you (my) researcher role" (Robson, 2002, p.311).

I noticed too, that up to this particular stage, the lecturers were still feeling a bit agitated upon hearing the word 'observation' so I decided to change the term to 'a friendly visit' whenever I spoke to them about it, for the purpose of this study.

Although according to my original plan, the first observations should be conducted in the second and third week, in reality, they only took place in the third, fourth and fifth week. In the third week, I was supposed to observe Ella's and Farrah's classes, but I could only observe Ella's class. Farrah was instructed by the Head of General Studies Department to cancel her appointment with me and join other lecturers to listen to a talk given by JPP HQ officers. Annabelle was assigned to attend a 'professional development of trainer' (TOT) two-week course (from mid till end of January) outside the institution and thus, was only available to be observed in early February (week 5).

I finally managed to conduct observations in two parts. In part 1, each lecturer was observed for about an hour (see Appendix B for observation schedule). The central purpose of this observation was to find out to what extent the participants' pedagogical beliefs and practices about technology integration mentioned in the first interview session were reflected by their technology use in their teaching contexts. I also looked for evidence of other influences that might affect the participants' beliefs and practices in using technology in their teaching context. In part 2, they were observed while attending professional development programmes which were two in-house professional development sessions on how to develop their own Cidos platform and convert certain subject modules into 'blended' modules. The main purpose of this observation was to investigate the conduct of the ongoing professional development programme in terms of duration, content, the instructors as the professional development authority and the organisation of the programme and how these bring impact to the participants' beliefs and use of technology in their teaching context.

With regard to the role of the observer in language lecturer thinking research, Borg (2006) states that it is common for researchers to choose "non-participant observation – i.e. where the researcher in the classroom typically sits at the back, makes notes and avoids interacting with lecturer or students during the event being observed" (p.231). In the classroom where the 'friendly visit' took place, I was first introduced (briefly) to what the lecturers were teaching; then I was permitted to sit wherever I felt comfortable to observe the classroom activities. I chose to sit at the back of the classroom, and I did not participate in the lesson and tried not to distract both the lecturers and the students in my attempt to be as unobtrusive as possible in the classes I visited.

3.5.3 Focus group

Focus groups were first used as a research method in market research, originating in the 1940s in the work of the Bureau of Applied Social Research at Columbia University (Bloor et al., 2001). Eventually, the success of focus groups as a marketing tool in the private sector resulted in its use in public sector marketing, such as the assessment of the impact of health education campaigns.

Focus groups are used for generating information on collective views and the meanings that lie behind those views. They are also useful in generating a rich understanding of participants' experiences and beliefs (Morgan, 1998). The use of focus group interviewing is growing in educational research for "gathering data on attitudes, values and opinions" (Cohen et al., 2007, p. 376).

A focus group is a structured group method used to gain detailed information from people as they communicate within the group. The distinct function of focus groups is the explicit use of group interaction to produce data and insight that would be less accessible otherwise (Morgan, 1998). Focus groups share many common features with less structured interviews, but there is more to them than merely collecting similar data from many participants at once. A focus group is a group discussion on a particular topic organised for research purposes. This discussion is guided, monitored and recorded by a researcher (sometimes called a moderator or facilitator) (Kitzinger, 1994; Morgan, 1998; Glesne, 2006). According to Ritchie

and Lewis (2003), focus groups create an opportunity for differences in opinions to be directly and explicitly discussed. For example, one focus group includes lecturers with distinct views: a lecturer who had a negative perception of technology integration in the classroom, and the other participant who had a positive attitude towards technology. This generated rich discussions and further information.

Focus group interviews are commonly conducted prior to individual interviews as this method allows interaction between interviewees with different experiences in order to reveal information that can be investigated further in one-to-one interviews. Ritchie and Lewis (2003) point to mixing qualitative approaches in an example of using focus groups as an initial stage to raise and begin to explore relevant issues, which will then be taken forward through in-depth interviews. Glesne (2006) argues that focus groups are useful when time constraints or accessibility are issues for the researcher, suggesting that focus groups can also be conducted after individual interviews.

Bloor et al. (2001) suggested criteria for using focus groups includes:

- As a standalone method, for research relating to group norms, meanings and processes
- In a multi-method design, to explore a topic or collect group language or narratives to be used in later stages
- To clarify, extend, qualify or challenge data collected through other methods
- To feedback results to research participants.

Morgan (1998) suggests that focus groups should be avoided according to the following criteria:

- If listening to participants' views generates expectations for the outcome of the research that cannot be fulfilled
- If participants are uneasy with each other, and will therefore not discuss their feelings and opinions openly.

- If the topic of interest to the researcher is not a topic the participants can or wish to discuss
- If statistical data is required. Focus groups give depth and insight, but cannot produce useful numerical results.

Regarding the focus group composition, Stewart and Shamdasani (2015) suggest that there is no 'best' solution to group composition, and group mix will always impact on the data, according to things such as the mix of ages, sexes and social professional statuses of the participants (pp 18-21). Interaction is key to a successful focus group. Sometimes this means a pre-existing group interacts best for research purposes, and sometimes stranger groups. Pre-existing groups may be easier to recruit, as they have shared experiences and enjoyed comfort and familiarity, which facilitate discussion or the ability to challenge each other comfortably.

The size of the group is an important consideration in focus group research. Stewart and Shamdasani (2015) suggest that it is better to slightly over-recruit for a focus group and potentially manage a slightly larger group, than under-recruit and risk having to cancel the session or having an unsatisfactory discussion. They advise that the optimum size for a focus group is six to eight participants (excluding researchers), but focus groups can work successfully with as few as three and as many as 14 participants. Small groups risk limited discussion occurring, while large groups can be chaotic, hard to manage for the moderator and frustrating for participants who feel they get insufficient opportunities to speak. Stewart & Shamdasani (2015) suggested two general principles about the order of questions that should be asked during the focus group interview session:

•Questions should move from general to more specific questions

•Question order should be relative to the importance of issues in the research agenda.

3.5.3.1 How the focus group session was carried out

In my own research context, the focus group interview session was conducted at the end of my fieldwork, after each participant was interviewed thrice, to gather data on their perspectives of the third professional development (PD3) session and their experience on further implementation of technology (Cidos) in their teaching context. The final individual interview sessions that I planned to conduct in week 11 did not take place as the lecturers were engaged in other professional development programmes and early preparations for the institution convocation ceremony. Thus it was so difficult to communicate with them. Glesne (2006) suggests that the use of focus groups when time constraints or accessibility are issues for the researcher.

In order to collect a richer data that would enable me to answer my research questions (by analysing and interpreting evidence of further development and transition in lecturers' beliefs and other influences that affect technology integration in their teaching contexts and make conclusion), I decided to conduct a focus group session with the remaining two participants. Even though Stewart and Shamdasani (2015) suggest that the smallest number of participants taking part in a focus group session is three, I decided to proceed with two participants, basing my decision on Forsyth's (2014) description that a group can consist of "two or more individuals who are connected by and within social relationships" (p.4), with an understanding and awareness that a small group risks limited discussion (Stewart & Shamdasani, 2015). The session took place in a meeting room and lasted for an hour. The interview schedule that I used was adapted from Kruger (2002) (see Appendix C).

3.5.4 Online Group Discussion (OGD)

I initially tried to make the participants write reflections on their experiences using Cidos in their classes in a book/journal/diary that would allow me to gain insights into their beliefs toward and utilisation of Cidos after attending professional development programmes. Zimmerman & Wieder (1977) who conducted ethnographic studies on counter-culture lifestyle suggest this as an alternative technique which is suitable for "those situations where further or more extended

observation strains available resources", and also "when the investigator is unable to make firsthand observations or wishes to supplement those already collected" (p.482). Reflective writing in the form of journals or diaries has been used in generating qualitative data in areas of teaching and the use of technology (Burgess, 1981; Pennington, 1995; Veen, 1993). Diaries, when combined with other sources of data such as interviews and observations, provide a rich source of data (Burgess, 1981; Borg, 2006; Jacelon & Imperio, 2009 p. 991). They are also used to draw out informants "own representations of social phenomena", hence, "diary data is by definition an insider account" (Dörnyei, 2007, p. 157), as they provide information on research scenes that the researcher might not have access to (Burgess, 1981). This technique can be a valuable source of data for qualitative research, mainly when extended periods of participant observation, are not possible. Although diaries might lack the nuances present in verbal communication (Begley, 1996), through diaries, the researcher can gather information about the day-to-day activities of participants and explore those activities during a subsequent interview (Elliott,1997; Zimmerman & Wieder, 1977).

3.5.4.1 How the Online Group Discussion (OGD) was carried out

At the beginning of my fieldwork, I distributed small notebooks to a number of lecturers who have initially agreed to participate in my research. Recipients of these notebooks were invited to record impressions and experiences of technology use that they wished to share. This, however, did not work as the lecturers claimed that they were too busy to write down entries about the use of technology in their teaching context. Knowing that this technique is significant as it would allow me to see development in lecturers' pedagogical beliefs and practices in integrating technology in their teaching context, particularly after attending PD2 session, I changed my strategy. Upon learning that the lecturers preferred to use their smartphones than the notebook, I set up two online platforms: one on Facebook and the other one, Whatsapp, where the participants could write reflective entries on their views and feelings about their experience using technology in their classrooms. It turned out that they preferred to communicate and reflect on their experience using technology (Cidos) in their teaching context via Whatsapp. I named this Online Group Discussion (OGD) sessions. In the beginning, the

participants did not start reflecting on their experiences on their own until they were asked about it. I would start the discussion, often in a friendly way, starting with sentences "Hi everyone, I hope that you are well and happy today! ". This then led to further conversation on the topics they taught in the classrooms, their experience using technology, students' responses, challenges they faced and recommendations.

I actually allocated 16 days (not 16 times) for the Online Group Discussion (OGD) sessions (see Appendix D). During these 16 days, the conversation or discussion did not take place every day, although every evening I initiated the group with greetings and a question like "Anybody would like to share anything regarding her experience using technology today?" but sometimes the participants did not give their response at all, and so I tried again to get them to reflect on their utilisation of technology in their teaching context the following days.

3.5.5 Researcher journal

I remember being taught about the importance of keeping records of any activities relating to our research in our Research Methodology classes. "Keeping a research journal is vital to the development of good qualitative research. In a research journal, the researcher regularly reports, and reflects, on the progress and process of the research. This is effectively your research diary, and is written for you – and it's useful to come back to it, throughout the analysis…if you report your results in a very reflexive manner, then it may be included, and this resource is crucial." (Braun & Clarke, 2013 p.71).

According to Braun and Clarke (2013), a research journal commonly contains:

- Reflections on the process and practice of recruitment and data collection which might include field notes on items like what an interview felt like when I was doing it, observations of a lecturer/participant that might suggest additional insights into my data, etc.
- Analytic insights that occur during fieldwork.

- The emotional perspectives of the study/investigation – happiness, joy, disappointment, worry, apprehension, regret etc. are familiar experiences for qualitative researchers, as we can be greatly affected by our research, and the research can be affected by our emotional process around this (Gilbert, 2001; Hallowell et al. 2005, in Braun & Clarke, 2013). A research journal can be an instrument to reflect on, deal with, and learn from the emotional aspects of this process.

3.6 Issue of Trustworthiness

Educational researchers need to test and assess the quality and rigour of their research. According to Silverman (2001), reliability and validity are two central concepts that are used in any discussion of the credibility of scientific research. However, Golafshani (2003) pointed out that these two terms, as defined in quantitative research, may not apply to the qualitative research paradigm, when he asserted that "the concepts of reliability and validity are viewed differently by qualitative researchers who strongly consider these concepts defined in quantitative terms as inadequate" (p. 599). Due to the nature of qualitative research, the terms consistency and dependability are often preferred over reliability, while credibility is more closely related to validity (Ritchie & Lewis, 2003). Furthermore, it has been argued that the terms reliability and validity are not viewed separately in qualitative research; they are encompassed by the terminologies: trustworthiness, credibility and transferability (Golafshani, 2003).

One of the ways to bring credibility to a qualitative study is through triangulation (Silverman, 2001; Creswell, 1998). The meaning and rationale of triangulation are demonstrated by Esterberg (2002):

"Triangulation is often used to mean bringing different kinds of evidence to bear on a problem (Denzin 1989). Thus, if you have access to interview data, observational data, and historical documents, your analysis is likely to be much sounder than if you rely on only one source of evidence. This is because each kind of evidence has its own strengths and weaknesses. With observation, you can actually see how people behave; it allows you to see a whole process unfold over time. With interviews, you can gain insight into their feelings or reasons for behaving in a certain way. Using multiple kinds of data allows you to balance the strengths and weaknesses of each" (p. 176)

In this study, triangulation of sources was used with the assumption that the "use of different sources of information will help both to confirm and improve the clarity, or precision, of research findings" (Ritchie & Lewis, 2003, p. 275). In this research, I developed a rigorous data collection procedure through multiple data collections to increase the credibility of the study. Observations were used following semi-structured interviews to decrease imprecise information gathered from interviews, while reflective online group discussion allowed for more in-depth investigation of observation data. Moreover, prior to the main study, a pilot study (see Appendix I) was conducted to test the research design and amend the methods as needed in order to increase their reliability and validity (Cohen et al., 2007).

In addition to the above, I used the respondent validation method, in which respondents were asked to corroborate findings (Silverman, 2010). I was able to review the results of the participants' data with the two participants who had provided their personal contact details. Instead of providing full transcripts of the data to the lecturers, I chose to do the reviewing verbally as they were only available for a short period of time.

Furthermore, transferability, which depends on the degree of similarity between the original situation and the situation to which it is transferred (Hoepfl, 1997), was maintained through providing detailed description (Cohen et al., 2007; Ritchie & Lewis, 2003). Lincoln and Guba (1985) argue that the researcher cannot specify the transferability of findings, but he/she can only provide sufficient information that can then be evaluated by the reader to determine whether or not the findings are

applicable to the new situation. Thus, this study attempts to provide sufficient information about the context of the research, the research design, the results (including quotes of participants) and the analysis processes to allow the reader to judge its transferability to another setting.

3.7 Reliability and conformability

In qualitative research, reliability can be interpreted as “a fit between what researchers’ record as data and what actually occurs in the natural setting that is being researched” (Cohen et al. 2013, p. 202). Lincoln & Guba (1985) state that one way of ensuring consistency in this is the creation of an audit trail. In the case of this research, the audit trail was created through a systematic recording and storage of the various forms of data generated, and the researcher’s journal to back this up when required. This also helped to ensure conformability, which is the process of demonstrating that findings emerged from the data rather than from my own predispositions and suppositions (Shenton, 2004). By doing so, this can add additional value to the research.

3.7 Data Analysis

Richards (2015) points out that qualitative study develops from the data, and the quality of the analysis is determined by the quality of the researcher’s data records and his/her skills for developing from them to ideas and explanation. In a qualitative study, “there is no particular moment when data analysis begins. Analysis is a matter of giving meaning to first impressions as well as to final compilations” (Stake, 1995, p.71). There is not only one correct method of data analysis however; there are general guidelines that indicate how to do it systematically and reflectively (Wellington, 2000 & Braun & Clarke, 2014). Data analysis requires organizing and interpreting the data. It starts with data reduction, in which data are coded and sorted into categories and themes.

In this research, the analysis started in the field, immediately after the initial pieces of information (such as the individual interviews) were gathered. Wellington (2000)

points out that an analysis of data early in the research cycle is vital because it can influence future data collection.

As requested by the research participants, all the individual interviews, discussions and focus group session were carried out using English, instead of the national language, Malay. Thus, no translation from Malay to English was performed during the transcription of the data from audio recorded data into word document. I did not seek assistance for transcription, meaning that the process was carried out solely by me because first, although it was largely time consuming, it allowed me to think, compare, and develop preliminary codes. Second, I had promised the lecturers that their data would be kept confidential.

An orthographic or verbatim approach which "focuses on transcribing spoken words (and other sound) in recorded data" (Braun & Clarke, 2014, p.162) to transcription was employed, whereby prosodic features such as stress, intonation, and short pauses were overlooked (Crystal, 1985). This is because the focus was more on the information given by the lecturers rather than how it was stated.

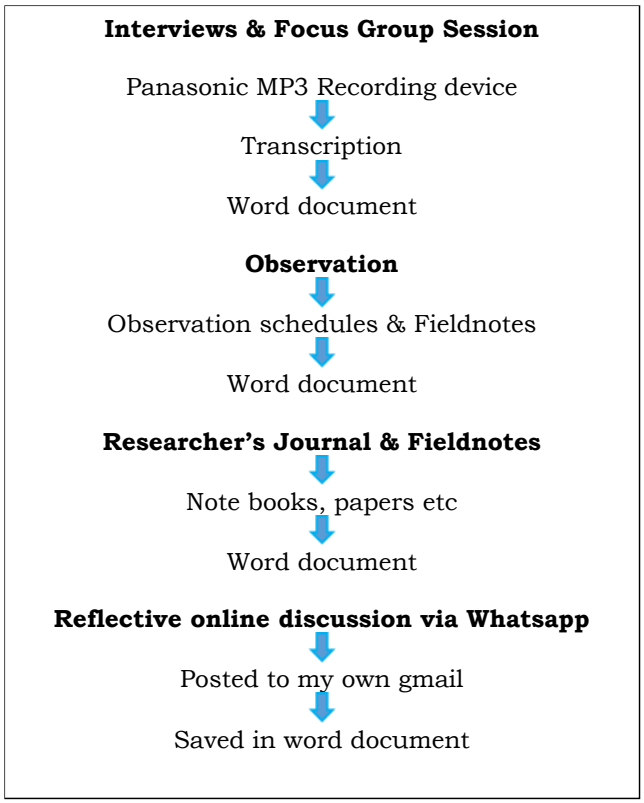


Figure 3 Transfer of data

After transferring all the data into electronic documents, I began to read and reread the data. Details about my analysis of data is written in Chapter 4: My analytical framework for case study data analysis.

3.8 Ethical Consideration

Ethics and morals both play an important part in scientific and educational research. According to Wellington (2000), an ethic is a moral principle which is concerned with the people behaviours and actions, "the main criterion for education research is that it should be ethical" (p. 54). Significantly, increasing consideration is being given to the ethical issues of research involving human subjects (Silverman, 2010, p.154). "Ethical responsibility is essential at all stages of the research process, from the design of a study, including how participants are recruited, to how they are treated through the course of these procedures, and finally to the consequences of their participation" (Miller & Brewer, 2003, p. 95).

I put in place procedures to meet ethical rules and guarantee participants' rights. First, I filled in the Manchester Institute of Education (MIE) Ethical Approval Application Form, signed it myself, and then had it signed by my supervisor and by the Chair of the MIE's Ethics Committee of Manchester University. This form certifies that the researcher will respect the dignity and privacy of those participating in the research (see Appendix E). Moreover, to get permission to conduct the study on lecturers' beliefs and knowledge in using technology their teaching contexts at the General Studies Department at Adiwira Polytechnic, Malaysia, I submitted a letter to the Director of the institution requiring consent for conducting the study, which was given.

According to the Ethical Guidelines on Research of the British Educational Research Association (BERA, 2004), participants have the right to be informed about the objectives of the research and its consequences. Also, a researcher should obtain informed consent before conducting the research. To meet these guidelines, during the first contact with the participants, I explained the goal of the study and emphasized the importance of providing honest opinions that could help

increase the credibility of the research results. I introduced myself as a researcher, ESL lecturers and a professional development officer at Department of Polytechnic Education, which was involved in the implementation of technology at polytechnic's level. I also indicated that the results of this study would be used to propel the development and improvisation of technology implementation in Malaysian Polytechnics. Besides, participants were informed that they would be able to see the complete research findings if they wished. At the beginning of all interviews, I told the participants of the expected time frame of the interview and obtained permission from the participants to record the interviews on a digital recorder and confirmed that the recording would be kept securely and was to be transcribed by myself.

In addition, I informed them that participation was not compulsory and that they had the right to withdraw from the study at any time. Participants were asked to sign consent forms (see Appendix G) which includes the aim of the study and declared the confidentiality and anonymity of the data. Confidentiality is identified as the main area of ethical issues (Cohen et al., 2007). "Confidentiality means that the researcher can match names with responses – for example, a face-to-face interview – but ensures that no one else will have access to the identity of the respondent" (Miller & Brewer, 2003, p. 97). Thus, to sustain confidentiality and cover participants' identities I used pseudonyms for participants.

Chapter 4: My analytical framework for case study data analysis

In this study, Rokeach's scheme (see 2.4.1) served as a framework that I used to analyse the participants' pedagogical beliefs; in terms of their origins (core or peripheral) and natures (level of resistance towards change). I created an illustration (see Figure 1 in 2.4.1) as a visual summary of Rokeach's lengthy explanation, which I found useful to aid my own understanding regarding the nature of lecturers' pedagogical beliefs and at the same time responding to Ertmer's (2005) inquiry as she questioned "Where do lecturers' beliefs exist in Rokeach's scheme and how are they used to process information related to teaching with technology?" (p. 32. Rokeach's scheme became the lens which I used to answer my first research questions "What are ESL lecturers' pedagogical beliefs and utilisation of technology in their contexts?"

Next, without the theoretical collaboration of beliefs and structured change processes and professional development, the study may not have captured the progress of developments in-depth and in detail, as it may have covered any type of belief that would be problematic to be defined or unstructured flow of change processes that would be impossible to be analysed. Theoretical suggestions on impactful learning processes for lecturers such as by Joyce and Shower (1986), Ertmer (2005), and Fullan (2007) (I discussed this in chapter 2) fit well in Guskey's descriptions of model of teacher change (1988, 2002), (see Figure 2 in 2.9.1), which became the lens I used to answer my second research questions "How did professional development influence ESL lecturers' beliefs and utilisation of technology in their teaching contexts?".

One of several important lessons that I learnt while doing this research is my improved understanding that data analysis does not begin when the data is collected, but rather at the forming of research questions (which were formed during and after doing the extensive literature review). Silverman (2005, pp.149-187) proposes a comprehensive account of data analysis, drawing on Coffey & Atkinson (1996, pp.10-11) who define analysis of data as a "pervasive activity" throughout the time span of a research project. Likewise, Creswell (2009, p.184) depicts the analysis of data as "an ongoing process involving continual reflection

about the data". He continues to suggest asking crucial questions about the data right from the beginning (p.153). Basit (2003, p.143) describes qualitative data analysis as "a dynamic, intuitive and creative process of inductive reasoning, thinking and theorising" while Leedy and Ormrod (2005, p.133) discuss the need to dig deep to reach "a complete understanding" of the phenomenon under study.

O'Connor (2012, p.182) argues that case study data analysis includes the same features of being an in-depth, inductive, repetitive and cyclical process that starts from general to specific observations. Creswell (2012, p.182) compares this to a spiral and explains a series of steps in the process; the first being data management. Based on this recommendation, I recorded, transcribed and then organised my first data sets (from interviews, observations, reflective online group discussion and focus group) into text units which then were saved as computer files. Following the organisation of data, which increased over the bounded timeframe, the next step was to get a pervasive sense of the whole database (p. 183). The most challenging stage I found was in the construction of a framework to convey the essence of what is revealed by the data (Denzin & Lincoln, 2000), to identify recurring patterns, categories and themes becoming evident enough to gradually link together into a coherent whole.

4.1 Building a framework for the analysis of data

As a novice researcher, I found that building a framework for the analysis of data an incredibly challenging stage in doing this research. This, however, seems to be a common situation faced by inexperience researchers, as O'Connor (2012) warns that a major challenge for the researcher is the choice of a suitable and justifiable mechanism to analyse case study data (p.259). As stated in the research questions, I was exploring ESL lecturers' beliefs and practices with respect to teaching and learning process (pedagogical) and the value of using technology in their practice contexts, and how these beliefs and practices are affected by professional development programmes.

Thus, through the research questions which put an emphasis on lecturers' pedagogical beliefs with regard to the value of technology in their practice context

and how these are affected by professional development programmes, themes connected to pedagogical beliefs and practices about ESL teaching and learning, uses of technology in their practice contexts and influencers that affect their practices and beliefs, and types of support and opportunities offered by professional development programmes began to emerge in the analysis of data which was carried out right from the beginning (Creswell, 2012).

4.2 The analytic process

After dealing with data management, the next stage was to select an effective and replicable approach to compress the volume of original data, in order to look into the underlying concepts. Braun and Clarke (2006, p.8) suggest the use of thematic analysis, as it is "not wed to any pre-existing theoretical framework" and affords itself to the flexibility required of qualitative research design. Through having this theoretical freedom, thematic analysis can contribute a "rich and detailed, yet complex account of data" (ibid, p.5). Joffe & Yardley (2003, p.56) emphasise further the potential of this qualitative form of analysis to unwrap the richness of "messages contained in talk data".

Braun & Clarke's stages begin at "familiarising yourself with your data", and progress towards an endpoint of reporting content and meaning of patterns (themes) in the data, where themes are abstract constructs which the investigator identifies before, during, and after analysis. This step involves a continuous moving back and forward between the entire saturated data set, coded extracts of data, and the production of analysed data for "repeated patterns of meaning" (2006, p. 15).

4.2.1 Familiarising myself with the data

Braun & Clarke's first stage of thematic analysis involves a process of "immersion" characterised by an "active" reading of the data, repeated until a "bedrock" for subsequent analysis has been established (2006, pp. 16-17). Agar (1980, p. 103) suggests that researchers read the transcripts in their entirety several times, whilst

Creswell (2009, p. 183) compares this process of a deeper understanding of the data to “peeling back the layers of an onion.”

Following these suggestions, I read the transcripts of the interviews, observations, reflective online group discussion, focus group and my researcher journal, repeatedly, supported by notes and memos, and continually listened to the recordings as well (for interviews and focus group discussion), asking such questions as “Why did A or B or C say that?” or “When B and C mentioned about the same thing, what does this mean?” or “A did this in the classroom, was this mentioned in the initial interview session?” or “Which part in this (the second interview session) that can be considered as a shift in understanding the meaning of this particular technology?”, etc. This stage was undeniably slow, time-consuming and meticulous at times, cutting across data sources, but I found it invaluable in capturing a whole sense of the dataset. The storage and retrieval of the data were made more manageable as it had been digitally recorded and saved that I could cut back and forwards across sessions to cross-reference, compare, interpret, and re-interpret particular instances of dialogue and observation notes and accounts.

As an investigator and researcher, I had to maintain the sense of in-between closeness and separation in order to move from description to interpretation (Patton, 1990). This would require a systematic coding frame.

4.2.2 Production of initial codes from the data

The second stage of Braun & Clarke’s (2006, p. 17) framework of thematic analysis is labelled as “generating initial codes” in order to unpack key ideas within a large text and define units of general meaning (Cohen et al., 2013, pp. 555-60). This is done by “taking chunks of text and labelling them as falling into certain categories, in a way that allows for later retrieval and analysis” (Joffe and Yardley, 2003, p. 59). As stated by Silverman (2005, p. 182), that all of us code what we hear and see around us, and through doing so, we “make the world observable and reportable.”

Stake (1995) asserts that case study analysis is most commonly associated with data-driven (inductive) approaches. However, having a conceptual framework for this study allowed a theory-driven (deductive) element as well.

Therefore, I decided to incorporate the data-driven inductive approach and theory-driven deductive approach. This reflects Miles & Huberman's (1994, p.111) description of codes which are derived from a dual process of deduction and induction and Creswell's recommendation to use combinations of "pre-determined and emerging codes" (2009, p.187). Creswell also suggests the use of "in vivo" coding, wherever applicable, based on the participants' actual language (ibid, p. 186). Table 2 below shows an example of how the pre-determined, theory-driven codes were obtained from my review of the literature and conceptual framework.

Points in my conceptual framework	**Pre-determined/deductive codes**	**Descriptions**
Technology acceptance and utilisation influences	Availability/unavailability of technological tools, internet access, limited resources, professional development/professional development programme, time, support from management (external influences), lecturer's beliefs/perception, lecturer's knowledge/skills, teaching contexts (internal/personal influences)	Causes that influence lecturers to use or not use technology in their teaching contexts.
The nature of beliefs	Resistance to change Beliefs shape action	Based on the notions that beliefs is hard to be changed and also, beliefs shape actions.
Lecturers' pedagogical beliefs in ESL teaching & learning	Meeting curricular expectations Meeting students' needs Shapers of beliefs (previous learning, previous professional development)	Lecturers' beliefs about how ESL is effectively taught and learnt and how these beliefs were formed.
Lecturers' beliefs in using technology	Usefulness (effectiveness) Ease of use (convenience, user-friendly, reliability)	Lecturers' beliefs about technology usefulness and ease of use and their ability/skill in using it.

Lecturers' use of technology	Low-level use High-level use	How technology is used by lecturers in their practice contexts.
Professional/staff development programmes (PDP)	Short-term/long-term professional development (design) Content, components	Role of PDP in shaping/reshaping lecturers' uses and beliefs about technology in their practice contexts.

Table 2 Production of initial codes from the data

I tried to be as systematic as possible when I went through the data, by assigning descriptive codes line by line, in an open coding process of using labels that allowed straightforward memorisation and meaning of issues they resembled (Cohen et al, 2013, p.560). While doing this, I found that several codes were general while others were more specific, as I was working through an iterative process (again and again), rather than a "one-off exercise" (Cohen et al, 2013, p.560), of going back and forwards through the text, reading and re-reading, placing and replacing labels to the point of refinement.

Coding can be done either manually or through a software programme (Braun & Clarke, 2006, p.18). Even though I could have used technology (Cohen et al, pp. 542-545), I chose a manual approach in order to make the process feel less "mechanistic" (Coffey & Atkinson, 1996, p. 37). Although this was time consuming, it gave me a better handle on the data, and a sense of reducing the material without losing any of "the quality of qualitative data" (Cohen et al, 2013, p. 559). In many respects it seemed strange that a study that is related to technology did not utilize its affordances in the main area of data analysis, but I would argue that in making up my mind about this option, I held on true to some values espoused in the literature review. Warschauer (1996) and Motteram (2013) emphasis on choosing tools when appropriate rather than for the sake of doing so. This is what I have done and I believe that the depth and richness of my interpretation is no less for having done so. Indeed I would hope it is stronger for it has given me a deeper, more personalised understanding of the data at each analytic cycle, as detailed in Table 3 and Table 4.

Having chosen to code my data manually, I coded my data by underlining words and writing notes on the texts I was analysing to indicate potential patterns. Braun and Clark suggest that the data can be coded either in large chunks (e.g. 20 lines of data), or, in small chunks (e.g. a single line of data), and anything in between (2013, p.210). After the codes have been identified, I then matched them up with data extracts that demonstrate that code. At this stage, I made sure that all actual data extracts were coded, and then collated together within each code. This involved copying extracts of data from individual transcripts and collating each code together in separate computer files. An example of this is portrayed in the following table.

Table 3 below serves as a snapshot of 'technological tools' codes produced in the first cycle of analysis of Annabelle's data, gathered from interviews, observation and focus group sessions. This is followed by Table 4, which shows the second cycle where the codes have been refined after the iterative process - going back and forwards through the text, reading and re-reading, placing and replacing labels to the point of refinement.

DATA (Interview 1)	**CODES**
Not all classrooms have technology equipment, only certain teaching rooms like the lecture halls are equipped with PCs and projectors, but we don't get to use them all the time because they're used by lecturers of other departments too. The Wi-Fi signal is strong in the staff room but outside, it's totally poor and sometimes not available at all. So you see, even though they put some technology equipment in the lecture halls, you still can't use Cidos because of this.	Unavailability of technological tools Internet connection issue
DATA (Observation 1)	**CODES**
The lesson is conducted in a smaller room than a classroom, called Activity Room 2. Students sit on flip-up chairs closed to each other because of the size of the room. There's one whiteboard, a table and a chair for the lecturer. As mentioned by Annabelle in the Interview 1 session, there is no	Unavailability of technological tools

computer or LCD projector in the room. The Wi-Fi coverage is either so weak, or almost not-available at all. Starts the lesson by greeting students. Communicates with students while waiting for the class monitor to get the LCD projector from the staff room. Switches on her laptop & the LCD projector. ((Minute 1-20 - Observation schedule/Field notes) (Observation schedule/Field notes)	Internet connection issue Unavailability of technological tools
DATA (Interview 2)	**CODES**
Annabelle: Well, you've seen how I conducted my lesson before, it's pretty much the same now actually and I still use my projector to display screenshots of the notes which I uploaded onto Cidos since I can't access it directly from classrooms. No internet connection." (Interview 2, 9.2.2015, IA2).	Unavailability of technological tools – No internet connection
DATA (Focus group)	**CODES**
Because, even in the class I'm busy teaching, completing the syllabus, activities and the assessment- I've no time to get students to go onto CIDOS and teach them to start all over again, you know. And then you know that students don't have laptops to use in class and they have to go to the IT lab to get the laptops and you know they are limited.	Unavailability of technological tools Limited technological tools

Table 3 Anabelle's first cycle technological tools code

DATA (Interview 1)	**CODES**
Not all classrooms have technology equipment, only certain teaching rooms like the lecture halls are equipped with PCs and projectors, but we don't get to use them all the time because they're used by lecturers of other departments too. The Wi-Fi signal is strong in the staff room but outside, it's totally poor and sometimes not available at all. So you see, even	~~Unavailability of technological tools~~ Technological tools (lack of technology in classroom) Technological tools (lack of technology; limited, shared with others) ~~Internet connection issue~~ Internet access (lack of internet access/poor-Wi-Fi signal in classrooms)

though they put some technology equipment in the lecture halls, you still can't use Cidos because of this.	
DATA (Observation 1)	**CODES**
The lesson is conducted in a smaller room than a classroom, called Activity Room 2. Students sit on flip-up chairs closed to each other because of the size of the room. There's one whiteboard, a table and a chair for the lecturer. As mentioned by Annabelle in the Interview 1 session, there is no computer or LCD projector in the room. The Wi-Fi coverage is either so weak, or almost not-available at all. Starts the lesson by greeting students. Communicates with students while waiting for the class monitor to get the LCD projector from the staff room. Switches on her laptop & the LCD projector. ((Minute 1-20 - Observation schedule/Field notes) (Observation schedule/Field notes)	~~Unavailability of technological tools~~ Technological tools (lack of technology in classroom) ~~Internet connection issue~~ Internet access (lack of internet access/poor-Wi-Fi signal in classrooms) ~~Unavailability of technological tools~~ Technological tools (lack of technology in classroom)
DATA (Interview 2)	**CODES**
Annabelle: Well, you've seen how I conducted my lesson before, it's pretty much the same now actually and I still use my projector to display screenshots of the notes which I uploaded onto Cidos since I can't access it directly from classrooms. No internet connection." (Interview 2, 2,2015, IA2).	~~Unavailability of technological tools~~ Technological tools (lack of technology in classroom) ~~No internet connection~~ Internet access (lack of internet access/poor-Wi-Fi signal in classrooms)
DATA (Focus group)	**CODES**
Because, even in the class I'm busy teaching, completing the syllabus, activities and the assessment- I've no time to get students to go onto CIDOS and teach them to start all over again, you know. And then you know that students don't have laptops to use in class and they have to go to the IT lab to get the laptops and you know they are limited.	~~Unavailability of technological tools~~ Technological tools (lack of technology in classroom; students do not have technology) ~~Limited technological tools~~ Technological tools (lack of technology in the institution)

Table 4 Anabelle's second cycle technological tools codes

4.2.3 The evolution of themes in the coded data

Table 2 and Table 3 show how codes were assigned to the datum in the early stages of the analysis, allowing the process to be inductive as possible, but at the same time searching for associations with, and reference to, my conceptual framework. At the beginning, and throughout the process, one of the challenges I encountered was in my pacing of the analysis. As a newcomer in a research field, I must admit that, occasionally, I fell into the novice researcher's mistake of trying to jump across stages too quickly, trying to force the data to fit the framework; peeling back the layers, seeking the flesh of Creswell's (2009) onion too fast.

There was indeed, a need to go through careful thematic analysis. Braun & Clarke label their third phase as "searching for themes", which begins when all data have been initially coded and collated, and you have a long list of the different codes you have identified across your data set (2006, p. 19).

This stage, which re-focuses the analysis at the broader level of themes, rather than codes, includes sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes (ibid, p.19). This phase gave me an idea of how different codes were coming together to combine and form overarching "theme-piles" (ibid). As shown in Table 5 and Table 6 below, a number of initial codes could be seen as forming into main themes, while some formed subthemes, as I moved towards the fourth phase labelled as "reviewing themes" (ibid, p. 20).

Annabelle

Theme: Institutional –level influences

Subtheme: Technology availability

Interview 1		**Observation1**		**Interview 2**		**Focus group**	
Extract of data	**Codes**	**Extract of data**	**Codes**	**Extract of data**	**Codes**	**Extract of data**	**Codes**
Not all classrooms have technology equipment, only certain teaching rooms like the lecture halls are equipped with PCs and projectors, but we don't get to use them all the time because they're used by lecturers of other departments too. (Annabelle, Interview 1, IA1).	**Technological tools** (lack of technology in classroom) **Technological tools** (lack of technology; uneven distribution of technology) **Technological tools** (lack of technology; limited, shared with others)	The lesson is conducted in a smaller room than a classroom, called Activity Room 2. Students sit on flip-up chairs closed to each other because of the size of the room. There's one whiteboard, a table and a chair for the lecturer. As mentioned by Annabelle in the Interview 1 session, there is no computer or LCD projector in the room. The Wi-Fi coverage is either so weak, or almost not-available at all. (Observation schedule/Field notes)	**Technological tools** (lack of technology in classrooms) **Internet access** (lack of internet access/poor-Wi-Fi signal in classrooms)	Well, you've seen how I conducted my lesson before, it's pretty much the same now actually and I still use my projector to display screenshots of the notes which I uploaded onto Cidos since I can't access it directly from classrooms. No internet connection." (Annabelle, Interview 2, IA2).	**Internet access** (lack of internet access/poor Wi-Fi signal in classrooms)	Because, even in the class I'm busy teaching, completing the syllabus, activities and the assessment- I've no time to get students go onto CIDOS and teach them to start all over again, you know. And then you know that students don't have laptops to use in class and they have to go to the IT lab to get the laptops and you know they are limited.	**Technological tools** (lack of technology in classrooms; students do not have technology)) **Technological tools** (lack of technology in the institution)

The Wi-Fi signal is strong in the staff room but outside, it's totally poor and sometimes not available at all. So you see, even though they put some technology equipment in the lecture halls, you still can't use Cidos because of this.	**Internet access** (lack of internet access/poor-Wi-Fi signal in classrooms)	Starts the lesson by greeting students. Communicates with students while waiting for the class monitor to get the LCD projector from the staff room. Switches on her laptop & the LCD projector. (Annabelle, Minute 1-20 - Observation schedule/Field notes, OA1)	**Technological tools** (lack of technology in classrooms)				

Table 5 Anabelle's themes development

Ella

Theme: Institutional-level influences

Sub-Theme: Technology availability

Interview 1		Observation1		Interview 2		Focus group	
Extract of data	**Codes**	**Extract of data**	**Codes**	**Extract of data**	**Codes**	**Extract of data**	**Codes**
One is limitation of facilities, classrooms are not equipped with projectors and in our department the projector is shared as we only have two for our unit. So it's either you wait for your turn, or, get one for yourself.	**Technological tools** (lack of technology in classroom) **Technological tools** (lack of technology in the department)	The classroom is like other typical classrooms with pairs of students' desks and chairs in three rows, a table and chair for the lecturer at the front, a whiteboard and some notice boards at the back of the classroom. There was no PC or projector in the classroom. (Observation schedule/Field notes)	**Technological tools** (lack of technology in classrooms)	Our students mostly, they don't have internet access and those who stay at the hostels, the Wi-Fi connection is so poor. Some do not have their own computers, or laptop so it's impossible to use other features in Cidos no matter how useful they are, like discussion features and stuff.	**Internet access** (lack of internet access; where students live) **Technological tools** (students do not have their own computers)	If you have semester 1 students, they stay at the hostel and they have Wi-Fi connection problem, the strength of the Wi-Fi is very low. So that is a very huge constraint.	**Internet access** (lack of internet access; where students live)
		Ella: Where did you get your notes? S1: I photocopied his notes, miss. (pointing at his friend) Ella: Why didn't you get it from Cidos? I uploaded					

		them a week ago. S1: No internet at the hostel, miss. Ella: How about you? (asking another students) S2: Same problem, miss. No internet at the hostel, miss. Ella: And the Wi-Fi signal is weak here too. How are we going to do this actually (sigh) (Observation schedule/Field notes)	**Internet access** (lack of internet access; where students live) **Internet access** (weak Wi-Fi connection in the classroom)				

Table 6 Ella's themes development

By the time of the fourth phase, I was reviewing and refining themes in such a way that Annabelle's reference to unavailability of technology facilities that influenced technology utilisation in the classrooms, was taking shape as 'institutional-level influences' as the theme, with 'technology availability' as the sub-theme and 'technological tools' as the code and 'lack of technology' (in classroom) as sub code and sub-sub code (details as in Figure 4 and Figure 5 shown below). Similarly, Ella's reference to limitation of facilities could also be translated to lack of technology in the classroom, but that in itself was not enough because even though there was common linkage in the lack of technology both lecturers were talking about, there was a need to more concisely categorise the nature of these limitations, which will be further discussed in the actual chapters on the specific cases.

Though Braun & Clarke (2006, p. 21) suggest that you should only move onto the next phase if each step of the thematic map works, there was considerable crossover between the review stage, and the fifth, the "defining and naming themes" phase (p. 22). At this stage, while I was actively reviewing and refining themes from different codes that have been identified across my data set, I noticed that a theme, initially labelled as 'technological issues', which was identified during the third phase (searching for themes phase) and formed by several codes and sub-codes relating to usefulness and ease of use of technology/Cidos was then became a sub-theme, and is placed, together with other sub-themes such as 'technology availability' and 'professional development', under 'institutional level influencers' as the new theme.

As the reviewing and refining processes went on further, I found that the theme 'institutional-level influence' was no longer suitable being placed on the top of the collated data as a theme. Since other theme such as 'lecturer level influence' emerged from the same process, a new label 'influencers of utilisation of technology' was produced and placed on top of the themes as the overarching theme (details as in Figure 4.1 and Figure 4.2) that gives a stronger sense of meaning to the whole cluster of the particular data set. These labels, according to Braun & Clark (2006, p.22) identify "the essence of what each theme is about" (the deeper story of the theme) and determine "what aspect of the data

each theme captures". Though they do stress that "as well as identifying the story that each theme tells, it is important to consider how it fits into the broader overall story", particularly in relation to answering the research questions (ibid), so as to feed into the sixth and final stage of "producing the report" (p. 23).

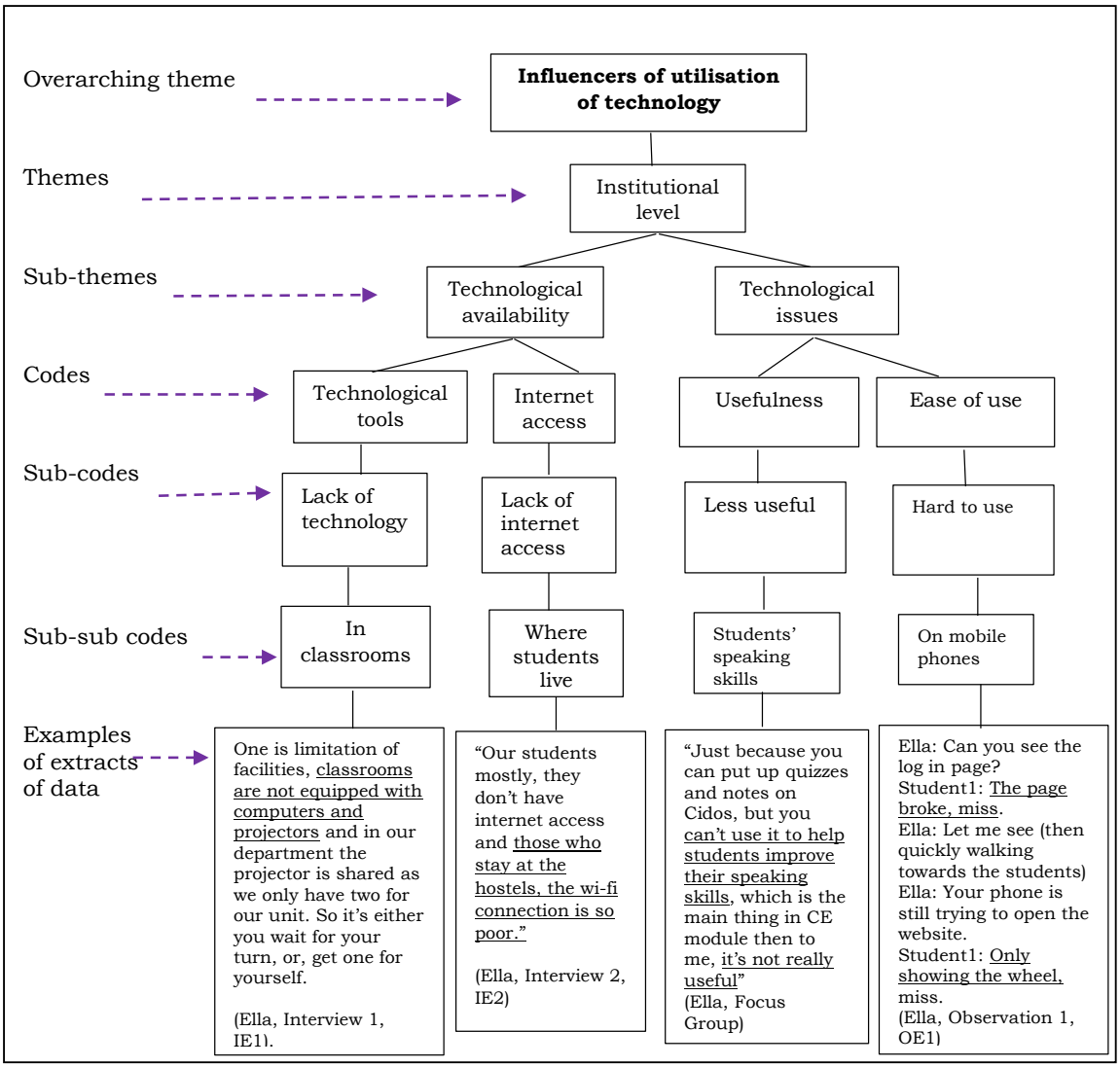


Figure 4 Process of overarching themes 1

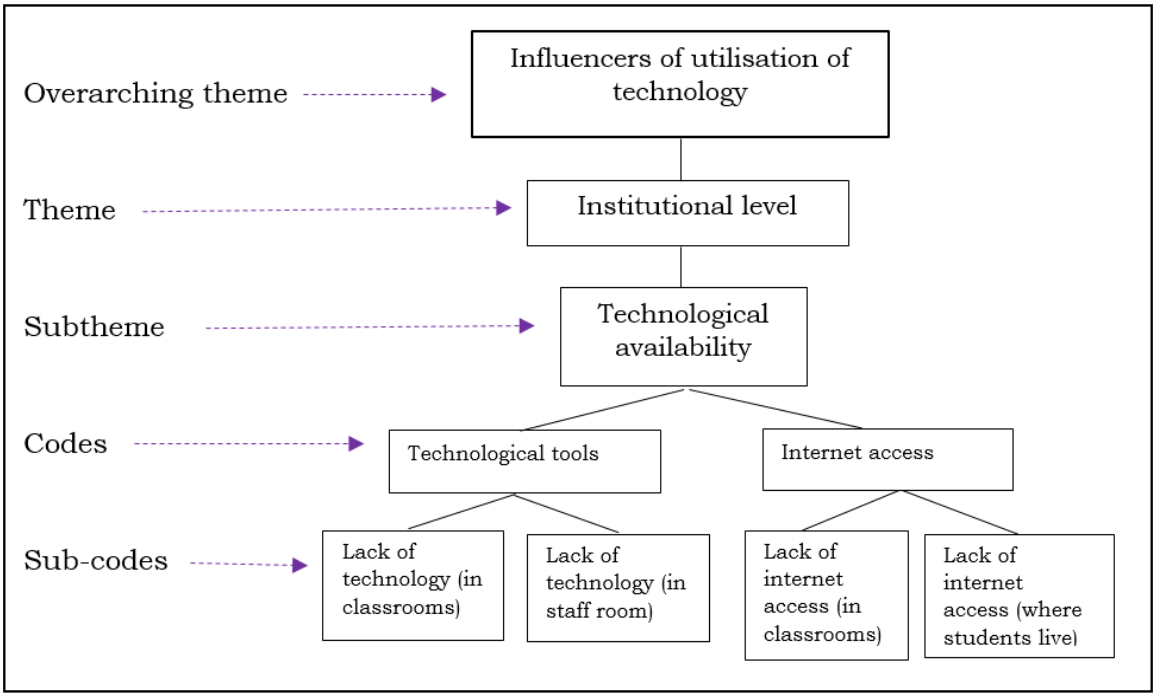


Figure 5 Process of overarching themes 2

Looking across the entire dataset, the experimentation that helps lecturers to establish linkage between the technology and the pedagogy often comes about through a process of shared experimentation. This backs up Braun & Clarke's (2006) call to keep and maintain a sense of the whole dataset throughout, and to be able to map these out against one another in the final analysis**.** This was done not so much in the form of a diagram but in stories of the cases, told individually, and then brought together in cross-case comparison.

4.2.4 Maintaining an established direction throughout the analysis process.

In summarising the process of data analysis, it is important to emphasise that the key issue was to address the two main research questions (RQ). Together with my conceptual framework, these served as a constant reference point throughout the analysis process. They provided the lens through which I could do this, giving shape to the deductive codes at the beginning, and a means of revealing the inductive codes which ran parallel to these. Right from the beginning, I was trying to get a sense of lecturers' pedagogical beliefs and

practice in utilization of technology in their practice contexts and then the developments that occurred during lecturer education programmes. Since my research questions served as a constant reference point throughout the analysis process, I believe it is important to stress that it was a case of first answering RQ1 and then moving to RQ2. It was particularly important to be aware of the emergence of references to actions and change, which form key parts of the discussion when it comes to the stories of the individual cases. However, to close this chapter on methodology, it is also important to establish trustworthiness in my claims of being systematic throughout the research process.

4.3 Reflexivity

Reflexivity is a recurring guideline throughout the literature on qualitative research studies (Stake, 1995; Merriam, 1998; Russell & Kelly, 2002; Watt, 2007). It is a process which begins with the identification of the case study's issue (Stake, 1995), and the formulation of research questions containing a sense of "where the chosen research approach originates, where it may be heading and what may be problematic about it" (Alvesson & Sandberg, 2013, p. 7). This includes the acceptance that researchers are inevitably part of social worlds they research, and that perspectives on the 'realities' of our surroundings are subjective, multiple, and never neutral (Hammersley & Atkinson, 1993; Cohen et al., 2013). Miller & Crabtree (1999, p. 10) depict this as recognising "the importance of the subjective human creation of meaning" without completely rejecting conceptions of objectivity. Though the participants' voices are central to this study, to think that they speak for themselves alone is an over-simplification (Mauthner & Doucet, 2003, p. 418). I had to ensure that throughout every stage of the research process, my choices and interpretations have been subject to the same level of scrutiny and critical reflection as the rest of the data. Again this was particularly crucial in the context of insider research because, in order to make clear what my motives are, it was important to be clear about who I am, as a person, and as a professional.

4.4 Transferability of findings in this study

The next criteria of trustworthiness after triangulation is addressed by the fact that the aim of this study is not for me as the researcher to determine or specify what is transferrable but rather to let the readers decide whether the findings are appropriate and applicable to other situations beyond the local context described in the case study. Stake (1998, p. 6) defines this as “naturalistic generalisation”, while Eisner (1991, p. 205) refers to this as a form of “retrospective generalisation”. Glaser & Strauss (1967), Patton (1990), and Eisner (1991) further analysed the importance of the ‘reader’ in judging the value of qualitative research. Glaser & Strauss argue that both the researchers and readers share a joint responsibility in judging the value of the qualitative research product (1967, p. 232). Patton highlights that pragmatic validation (of qualitative research) means that “the perspective presented is judged by its relevance to and used by those to whom it is presented: their perspective and actions joined to the (researcher’s) perspective and actions” (1990, p. 485).

Chapter 5: Annabelle

This chapter is divided into 3 parts; Part 1 is about Annabelle's ESL teaching context, Part 2 is about exploring Annabelle's pedagogical beliefs and actions on the use of technology in teaching ESL in her context, and Part 3 is about examining the effect of "one-off" professional development 1(PD2), "ongoing" professional development 2 (PD2) and "non-formal" professional development (online group discussion - OGD) towards Annabelle's beliefs and practice on the use of technology in teaching ESL in her contexts.

Part I: Annabelle's ESL teaching context

5.1.1 Annabelle as a person

Annabelle grew up in a Chinese-speaking family. She learnt Malay and English at school. In the first interview session, she passionately claimed teaching as "my interest since I was a little girl" (Interview 1, IA1). She is a qualified and an experienced ESL lecturer who has been teaching in Malaysian polytechnic for more than twenty years. She attended Chinese convent primary and secondary schools for eleven years before enrolling herself as a trainee teacher at a local lecturer teacher training college. At the college, she gained her certificate in Teaching English as a Second Language (TESL) and taught English at several primary schools for a number of years. In 1993 Annabelle won a government scholarship and went to study for her first degree in English Language Teaching (ELT) at a Russell Group university in the United Kingdom. After obtaining her qualifications, she spent a few years teaching ESL in two polytechnics. Later she furthered her studies and obtained her masters' degree in TESL from a prestigious local university in Malaysia. Annabelle loves reading and travelling and has travelled to many places around the world.

5.1.2 The students.

Annabelle teaches Communicative English (CE) 2 modules to semester 3 students. In terms of English language proficiency, she described her students as those who "don't

have good proficiency in English" (Interview 1, IA1) as "in the lesson, it is rather hard to make them use English" (ibid). This is probably related to one of the minimum entry requirements of the institution that allows students who did not pass their English at Sijil Pelajaran Malaysia (SPM – Malaysia Certificate of Education) level, a qualification which is equivalent to GCSE O-levels, to further their education at diploma levels at the institution (DPE, 2015). During the initial interview session, Annabelle stated that "the quality of the students has dropped drastically; when I first started teaching in poly, the students' standard of English was good; commerce students should have at least credit 6 to be enrolled and technical students at pass 7; now students who failed their English at SPM level can also be enrolled" (ibid). In terms of attitudes towards learning, the students are revealed as having less interest in learning the subject and also less-autonomous as Annabelle had to "prepare all the materials for them" as "if you ask them to find some materials they will come to class the next day empty-handed" (Interview, IA1).

5.1.3 Teaching and learning resources and facilities

Annabelle does not have a specific room to teach her students as classrooms, but she has access to lecture rooms and lecture halls. These rooms are shared with other lecturers who take a turn to use the rooms, following the timetable set by the admin. In the staffroom, Annabelle is allocated a personal computer (PC). She has access to a laserjet printer and two LCD projectors which she shares with other ESL lecturers. She owns a mini laptop and a mobile Wi-fi which she usually brings to her class.

5.1.4 The institution

The institution managers, in line with the Polytechnic Transformation Agenda, aims to strengthen the teaching and learning processes at polytechnics through technology integration, instructed lecturers to actively use of Cidos in the teaching and learning of their subjects. In order to equip lecturers with skills that will enable then to use Cidos actively, one-off professional development sessions on blended learning and Cidos were

conducted on a weekly basis by the e-learning key person and the professional development unit.

Part 2 (a): Annabelle's pedagogical beliefs and practice in her ESL teaching context

5.2.1 The origin of Annabelle's pedagogical beliefs.

Pajares (1992) who conducted an extensive review about studies on teachers' beliefs concluded them as "a messy construct" (p.307), since the meaning of belief were not clearly defined by scholars, and often used interchangeably with other constructs such as knowledge and attitude.

Based on Annabelle's data which I gathered during IA1 and OA1 sessions, I used Rokeach's proposal on beliefs (1968) to describe the type of Annabelle's pedagogical beliefs, their characteristics, position in her belief systems and their reactions toward change. Annabelle's data revealed that her beliefs and actions on the use of technology in her lessons are related to her beliefs in teaching ESL in her context. According to Rokeach's scheme, based on their origins and characteristics, Annabelle's pedagogical beliefs could be considered as Type C beliefs, which are close to core belief systems and thus, difficult to change and could be traced back to her past ESL learning and professional development experiences, which I explained in the following sections.

5.2.2 Annabelle's experience as an ESL learner.

Annabelle's descriptions during IA1 session revealed that her pedagogical beliefs on the teaching and learning of ESL were developed and formed early, prior to her enrolment at a convent primary school, by her trusted 'authority' (Rokeach, 1968, p.10), which was her father who decided to enrol her into the school because "he believed that they (ESL teachers) taught good English there" (Interview 1, IA1). As the ideas about the ESL teachers and the school were conveyed to her by her father who was also the 'reference person' (Rokeach, 1968, p.10) whom she trusted as a daughter and a child, Annabelle

then went to school with the preconceptions that she was going to the right school to learn English and that her ESL teachers were highly capable in teaching ESL.

Those initial beliefs were then nurtured by her real experience learning ESL from her teachers as the "reference persons" (Rokeach, 1968, p.10), who were her ESL authorities at school. This information was revealed by Annabelle when she described her experience as an ESL learner who was taught using the traditional grammar-focused approach by her ESL teachers, and she said: "When I was a student, learning English was all about learning grammar. Lots of drilling too" (Interview 1, IA1). This particular learning technique seemed to have a positive effect on Annabelle's language proficiency as she remembers "what I learnt are still in my memory and I can apply them in writing and speaking" (ibid).

Throughout her eleven years both at primary and secondary schools, Annabelle's descriptions of her teachers revealed exposure to the traditional teaching approach that was deeply teacher-centred when she said that the teachers were the ones who held a central role in the classroom, "during that time and our teachers were so resourceful and to me, they knew everything and so if I wanted to be successful, I must listen to them and follow their instructions" (Interview 1, IA1). This also suggests that Annabelle grew up with the image and understanding that it was the teacher who speaks and teaches and the students were obliged to listen and carry out the teacher's instructions in order to become successful. She recalled her English language and history teachers as her favourite teachers because they were "so diligent and worked hard to make us understand the lesson" (ibid).

Annabelle's responses during IA1 session also suggest the absence of technology in her ESL learning experience, when she later recalled of the absence of technology in her early teacher training days where "we only used the typewriter to type our assignments or course works" (Interview, IA1). This too, suggests the beginning of the formation of beliefs that success in learning ESL could be achieved without the use of technology.

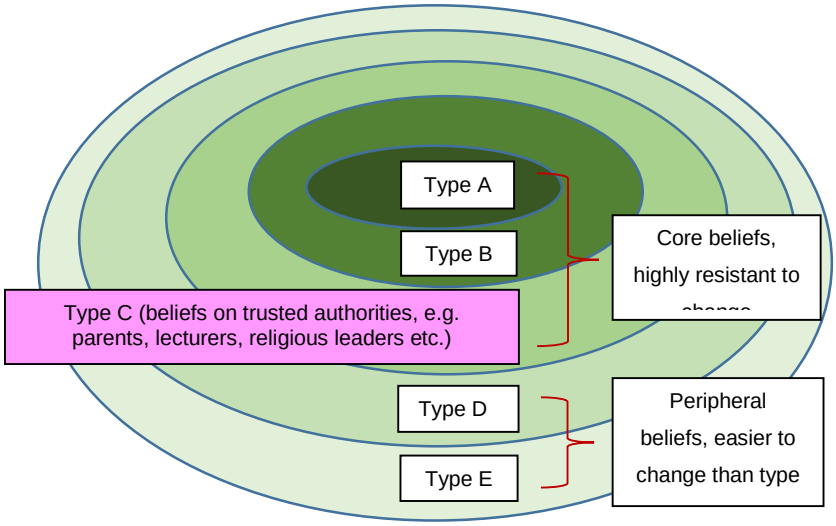
5.2.3 Annabelle’s experience in ESL teacher education.

Annabelle's years' of successful experiences in learning ESL through a traditional teaching approach that was deeply teacher-centred seemed to be reshaped gradually during her teacher education days. For example, she learned various teachers' roles that she could adopt in the classrooms so as to allow effective learning to take place. During IA1 session, Annabelle said, "during my training, I was continuously exposed to the role of teachers as facilitators, I mean how to facilitate our students' learning rather than dictate them, which I think it depends on the context too" (Interview, IA1).

Regarding her education in technology integration in ESL, Annabelle recalled her first teacher education experience in the late 80s where access to technology was still limited. She stated that she received no training in technology integration in language teaching, and gave an indication that technology like the computers were not accessible as she said "I remember we only used the typewriter to type our assignments and coursework. The word laptop was a strange word. So, no professional development on using the computer to teach" (ibid). This also suggests that her beliefs that success in learning ESL could be achieved without the use of technology which was formed when she was an ESL student remained unchallenged.

However, about a decade after gaining her bachelors' degree, Annabelle pursued her MA course and to some extent was exposed to the use of technology in language teaching and learning, as Annabelle stated: "I remember we were required to enrol in one ICT class, we learnt some software for language learning, like this CD Rom that has grammar notes and exercises" (ibid). From time to time at her workplace, Annabelle attended a few workshops on technology which seemed to have been organised particularly to develop lecturers' technological skills, when Annabelle said that the sessions were "mostly about software like Scorms and others" (ibid), including the most recent one called 'Blended Learning and Cidos' workshop which was conducted in mid-November 2014.

5.2.4 Using Rokeach's proposal to understand Annabelle's pedagogical beliefs



Based Based on Rokeach's scheme (1968), Annabelle's pedagogical beliefs could be categorised as the Type C beliefs – the authority belief (here I referred to her ESL lecturers as the "reference persons") (p. 10), which were formed early during Annabelle's days as an ESL student and is argued as a core belief which is rather resistant to change (Rokeach, 1968, p.10). Throughout her eleven years both at primary and secondary schools, Annabelle's descriptions of her teachers revealed exposure to the traditional teaching approach that was not student-centred when she said that the teachers were the ones who held a central role, "during that time and our teachers became so resourceful and to me, they knew everything and so if I wanted to be successful, I must listen to them and follow their instructions" (Interview 1, IA1). Annabelle grew up with the image that it was the teacher who speaks and teaches and the students listen and carry out the teacher's instructions. Her descriptions of her history and English language teachers as her favourite teachers because they were "so diligent and worked hard to make us understand the lesson" (ibid) also showed her beliefs that it is the teacher's responsibility to make his/her students successful.

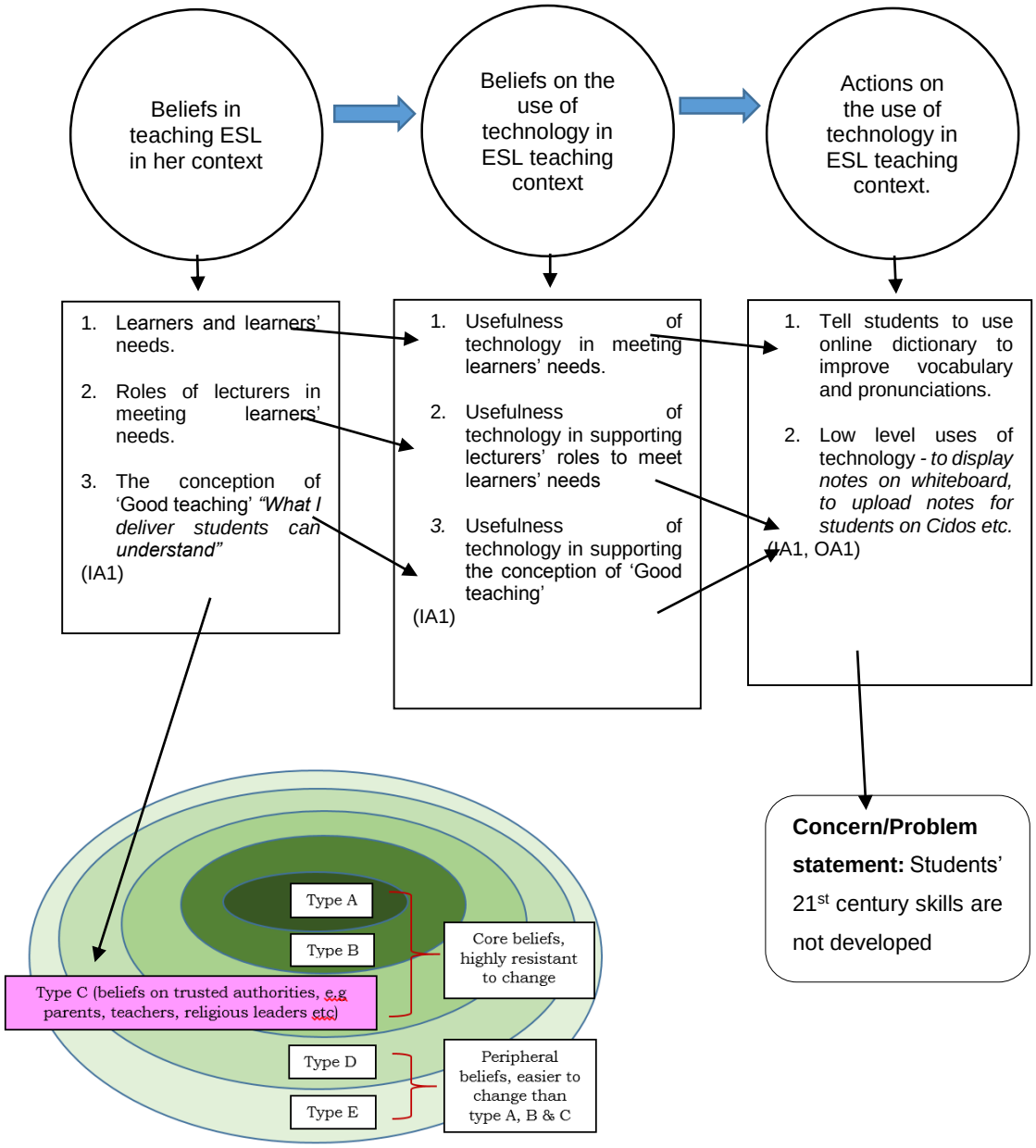
Apart from that, Annabelle seemed to believe that she became a successful language learner due to the way she was taught by her ESL teachers (Type C belief), which was proclaimed by her during IA1 session when she said: "and you know what I learnt are still

in my memory and I can apply them in writing and speaking and I feel those are good techniques to teach grammar to second language students" (ibid). These positive experiences, each of them became an "episodic material" or memory (Abelson, 1972, p.358), resides in a more central position in Annabelle's core belief systems, and, from time to time developed and accumulated as "affect-based beliefs" (Griffin & Ohlsson, 2001, p.6), and became more connected to her personalities. Griffin and Ohlsson argue that this type of beliefs, by virtue of their lack of coherence with the conceptual framework, might be resistant to threats posed by conflicting information and thus, act as filters to any new information which likely to be distorted upon any disagreement, and, even if it is accurately comprehended, it will have little impact (Griffin & Ohlsson, 2001; Ertmer, 2006). Any new knowledge, such as the advantages of student-centred or self-directed learning approaches and technology integration in ESL teaching and learning, which were taught later in Annabelle's life by other authorities such as her pre-service and in-service professional development instructors, developed and accumulated as knowledge-based beliefs. These beliefs became less personal and resided somewhere on the peripheral layers of Rokeach's scheme.

Based on Rokeach's (1968) scheme, Annabelle's beliefs about her ESL teachers is the authority belief, the Type C beliefs that are "important and generally resistant to change" (p.10). Her beliefs on her pre and in-service instructors' teaching could be explained as Type D beliefs, also known as peripheral beliefs, and are less resistant to change. This information suggests the possibility of Annabelle's pedagogical beliefs to be shaped or re-shaped by other authorities such as professional development instructors, or, by other elements.

Part 2 (b): Annabelle's pedagogical beliefs and utilisation of technology in her ESL teaching context.

Annabelle's descriptions during IA1 and OA1 sessions revealed that there were connections between her pedagogical beliefs and practice on her beliefs and actions on the use of technology in her ESL teaching context.



5.3.1 Beliefs and practice in teaching CE course in her context

This section elucidates Annabelle's beliefs about the teaching and learning of CE course which shaped and reshaped her beliefs and actions towards the use of technology in her particular teaching context. The following central themes are discussed:

- Learners and their needs
- Lecturer's role (in meeting learners' needs)
- The conception of 'good teaching'

5.3.1.1 Beliefs about learners and their learning needs.

In the initial interview session, Annabelle's discussion revealed her understanding of her students' language level proficiency and attitudes towards learning English, which impacted her beliefs and actions on the teaching and learning of the CE course module. Annabelle described her students as those who are generally "weak in grammar and vocabulary" (Interview 1, IA1) and have "low confidence" (ibid) in learning English. Besides, they are also described as not autonomous when it comes to finding their resources in learning English as they "mainly depend on their learning modules, which we prepared and printed for them" (ibid) and "me, to explain the content of their reading texts" (ibid).

Due to her students' language level and attitudes and the focus of the CE syllabus that requires them to communicate effectively and confidently in group discussions and a variety of social interactions" (CE course outline, DPE, 2014), Annabelle expressed her concern about her students' ability to fulfil those expectations when she stated "it is rather hard to make them use English, I mean to converse with each other…and when they speak they make a lot of (grammatical) mistakes that makes them hard to be understood" (Interview 1, IA1). Annabelle's belief in meeting her students' need in language accuracy was also disclosed when she expressed her frustration on noticing that the current CE course module "lacks grammar slots" (Interview 1, IA1).

5.3.1.2 Beliefs about a lecturer's role in meeting learners' needs.

Annabelle's responses also revealed her beliefs in her roles in meeting her students' learning needs, which is related to her beliefs about her students' language level proficiency and attitudes and motivation towards learning English. This kind of belief, i.e. meeting students learning needs, is described by Yoshihara (2012) as "a common role believed to be on top of the list by ESL lecturers elsewhere" (Yoshihara, 2012, p.4).

During IA1 session, Annabelle discussed the roles she undertook in order to develop certain language skills that her students are "weak" (Interview 1, IA1) at, such as accuracy skills as well as their motivation to learn English. In this particular context, Annabelle appeared to believe that her role is "to help them (her students) improve their background knowledge in English" (Interview 1, IA1) by teaching grammar, vocabulary and pronunciation through "drilling" (ibid) activities, so that her students can "learn more basic rules of grammar and sentence structures" (ibid) and "apply in their speaking" (ibid) and become more "confident when they speak English" (ibid). This was evident in her action in the classroom when she allocated a few minutes at the beginning of her lesson to revise grammar items learnt in the previous lesson. She also nominated a few students to take a turn to read aloud the paragraphs in the reading text. While they were reading, Annabelle took the chance to correct their pronunciations (Observation 1, OA1)

25-40 minutes	- Continues teaching, explaining more about the reading paragraphs 1-2 (which were displayed on the whiteboard, using the LCD projector). - Asks and nominates students to read certain lines and sentences, aloud. - Question & Answer session
40- 50 minutes	- Continues teaching, explaining more about the reading paragraphs 3-4 (which were displayed on the whiteboard, using the LCD projector). - Asks and nominates students to read aloud certain lines and sentences and correcting their pronunciation from time to time. - Asks students the meanings of certain words and when they do not give the right answers, she explains the definitions of those words.

Figure 6 Extracts of Annabelle's observation 1 (OA1) data

5.3.1.3 Beliefs about the conception of ‘good teaching’.

Due to her students' level of proficiency in English, which is considered as low, Annabelle believes that they need to be taught in a way that could improve their understanding of their lesson. Annabelle believes this is the conception of "a good teaching" (Interview 1, IA1). During IA1 session, Annabelle's descriptions of the concept revealed her priority in achieving the objectives of her lesson by delivering the subject content that is comprehensible to her students, a skill which is known as pedagogical content knowledge (Shulman, 1985), when she stated that "a good teaching and learning is what I teach or deliver in class, my students can understand and able to do and complete their learning tasks, and to apply what they have learnt, in other words, achieve my objective of the lesson" (ibid). This was evident in her action prior to conducting the reading comprehension exercise on the topic "Reading Skills", where she conducted the lesson which I found was rather lecturer-centred; when she appointed several students to read aloud each paragraph in the reading text and then conducted a quick discussion on meanings of words and the subject matter of each paragraph (Observation 1, OA1).

Annabelle's responses also revealed that there is a link between her belief about meeting her students' language learning needs and her previous ESL learning experience when she stated that "I learnt my grammar during my primary and secondary schools; as I said, through lots of drilling, and lots of reading too, for our vocabs" (Interview, IA1). These particular learning experiences seemed to have become Annabelle's core belief, as she said: "what I learnt are still in my memory, and I can apply them in writing and speaking; hence I feel those are good techniques to teach grammar to second language students" (ibid).

5.3.2 Beliefs and utilisation of technology in her teaching context.

During IA1 session, Annabelle's words revealed that there was no rejection when it comes to including technology in her teaching context as to her, a lecturer's choice of utilising technology depends on whether or not it is necessary and suitable to be used in a lesson.

In her own words, Annabelle stated: "it is a matter of whichever is suitable and practical" (Interview, AI1), because "there are no the best methodologies for a good teacher" (ibid).

Annabelle's data shows consistency with previous studies which propose the existence of a relationship between teacher's pedagogical beliefs and use of technology (Zhao et al., 2002; Ertmer, 2006). Winschitl and Sahl (2002) suggested that there "can be no institutional 'vision of technology use' that exists separately from beliefs about learners, beliefs about what characterises meaningful learning, and beliefs about the role of the lecturers within the vision" (p. 202).

This section explains Annabelle's beliefs and use of technology in the teaching and learning of CE module which are labelled by Ertmer (2006) as "low-level usage" (p.26) and shaped by her beliefs and practice in teaching the module in her particular context. The following central themes are discussed:

- Technology usefulness (in meeting students' learning needs in supporting teaching approaches)
- Ease of use of technology

5.3.2.1 Beliefs and actions about the role of technology in meeting students' learning needs.

During IA1 session, Annabelle revealed her belief which seemed to be based on her understanding of the values and usefulness of technology, like other instructional materials that function "as a tool to help students with their learning" (Interview, IA1). She asserted that technology changes the way a lesson used to be taught and learnt from "just chalk and talk" (ibid), to displaying lesson's notes on the whiteboard as "a diversion from books and notes and board" (ibid), making learning process "less boring" (ibid). This belief was evident in Annabelle's action in her class when she used her own laptop and projector to display learning materials such as reading paragraphs, grammar notes and exercises and screenshots of her Cidos platform to her students (Observation 1, OA1).

Also, acknowledging that her students "are weak" (ibid) in "vocabulary" (ibid), Annabelle revealed her understanding and beliefs about the value of technology in the form of an online dictionary which offers more than just definitions of words than a paper dictionary, that can make her students' learning more effective when she stated "I encourage them (her students) to use the online dictionary as it is very useful for them to look for meanings of words, plus, they can listen to how they're correctly pronounced" (ibid). However, during my visit to her class, I could see neither Annabelle nor her students were using an online dictionary when they were discussing the meanings of several words in the reading text. A few students were seen using their paper dictionaries. A quick glance at my own mobile phone confirmed Annabelle's responses during IA1 session when she stated that one of her challenges to integrating technology in her class was the "weak wi-fi signal" (Interview 1, IA1). During the second interview session which took place after the observation, Annabelle's words confirm lack of technology and access to the internet as the main barrier for utilisation of technology when she stated: "if the students have the technology, they could achieve better because they understand better" (Interview 2, IA2).

Apart from that, Annabelle's descriptions also revealed her beliefs which were based on her understanding that technology is useful in aiding her students to further understand the content of reading materials in the course module, by providing a visual explanation for some reading texts using video clips, which "I download from YouTube and store in my laptop to show students the actual processes in producing a product" (ibid).

5.3.2.2 Beliefs and actions about the role of technology in her teaching approach

Annabelle's responses and actions during the initial interview and observation sessions showed her belief in the usefulness of technology in supporting her particular teaching approach so as to meet her students' needs in learning ESL course. Annabelle's descriptions on her use of technology in her context appeared to be consistent with Ertmer's description as a "low-level usage" (2005, p.26) which also reflect her particular belief in traditional, lecturer-centred approach (Andrew, 2007; Hermans, Tondeur, van Braak, & Valcke, 2008, in Ertmer, 2012) when she stated that "for the classroom, I normally use my laptop and projector to display the lesson's notes" (Interview, AI1). This

particular belief was observed in Annabelle's actions in her classroom when she used her own laptop and projector to display her teaching materials on the whiteboard throughout the one hour lesson (Observation1, OA1). This particular practice, however, has the potential to be discontinued when Annabelle said: "but you know sometimes I feel so tired carrying this stuff because I need to move a lot as my classes are in different buildings" (Interview 2, IA2), supporting lack of technology in lecturers' teaching context as a factor that influences their utilisation of technology.

Annabelle's responses regarding her utilisation of Cidos as the institution's Learning Management System (LMS) also revealed a low-level usage that seemed to have been shaped by her beliefs in traditional teaching approach and her lack of technological understanding of the features and functions of Cidos (TK), when she said that she uses Cidos only "to upload materials for our modules they call e-content" (Interview 1, IA1) so that "students get their learning materials from there because we no longer print our modules for them" (ibid). This seems to be consistent with a handful of literature that proposes "those with traditional beliefs used computers to support more lecturer-directed curricula" (Andrew, 2007; Hermans et al., 2008, in Ertmer et al. 2012).

5.3.2.3 Beliefs about ease of use of technology

Annabelle's responses revealed her belief in the ease of use of the particular technology she uses in her context that has shaped her action in using the technology the same way, for a long time. During the first interview session, Annabelle said "for teaching I use the same technology that I've been using for my work and personal use, like the word documents, PowerPoint and YouTube. They're pretty straightforward to use, maybe because I've been using them for a long time, so kind of familiar" (Interview, IA1). This seems important to Annabelle, as she does not feel "much confident if there are complicated steps to use technology" (ibid). This was portrayed in her teaching too when she used PowerPoint slide presentation to show to her students some snapshots of the lesson's notes which she uploaded onto her Cidos platform, saved as an offline file (Observation, OA1). Her reason for not using Cidos in her classroom which was stated after the observation confirms her statement about lack of professional development (IA1) on the features and functions of Cidos

that seemed to make her feel uncomfortable to use, Annabelle said: "I only know how to upload text files that's all. As I told you, the rest is complicated, and so I don't use it that much" (Interview 2, IA2).

Part 3 (a): The influence of PD1 on Annabelle's beliefs and utilisation of technology in her ESL teaching context.

RQ2: How did professional development programmes influence lecturers' beliefs and actions on the use of technology in their ESL teaching contexts?

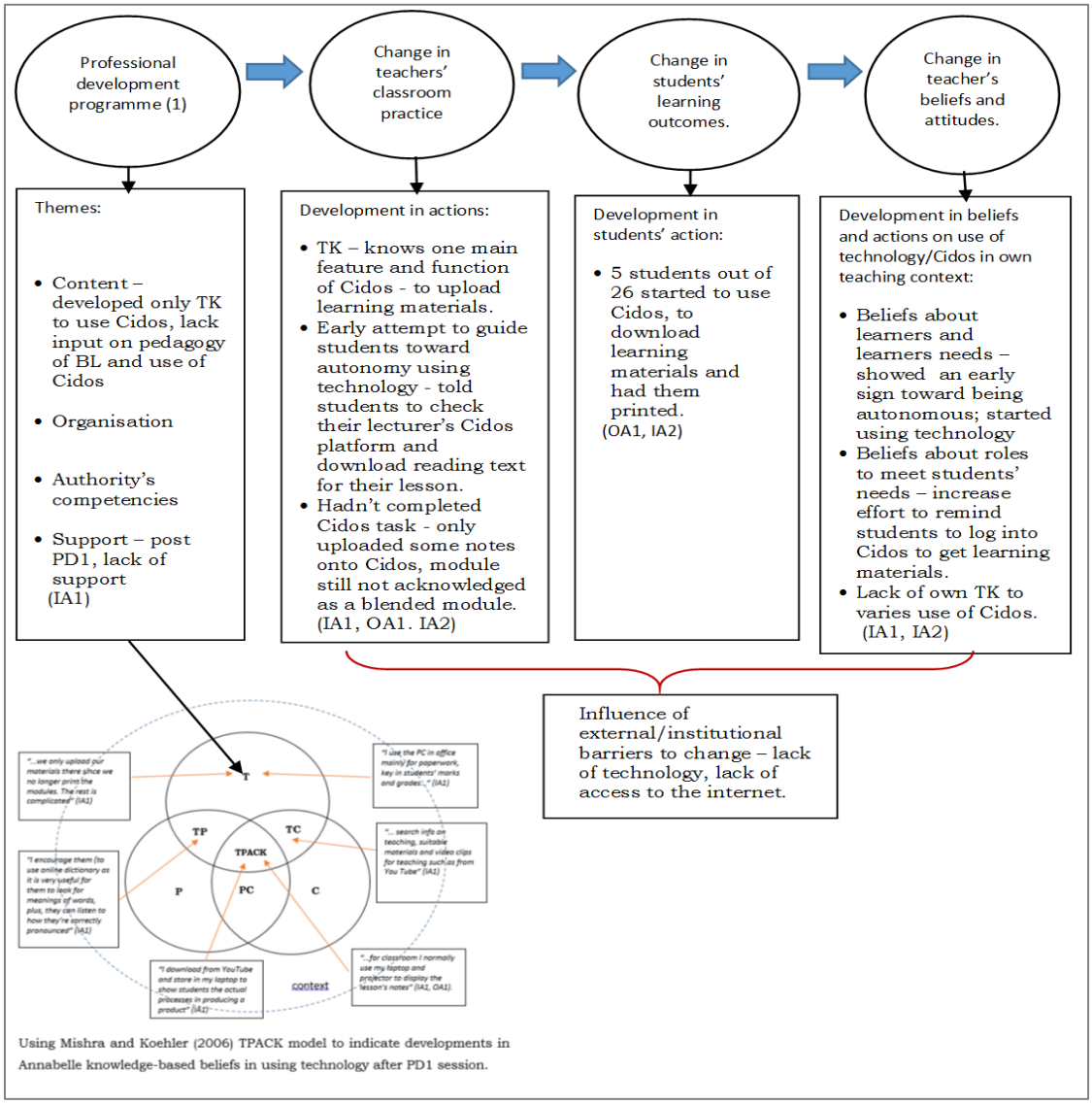


Figure 7 PD1 and changes in Annabelle's practice and beliefs on technology

Guskey’s Guskey's (1986, 2002) model of teacher change suggests that change in teachers' beliefs does not occur during, or after professional development sessions, but take place after the change in teachers' classroom practice that has an effect on students' learning practices. For this research, particularly for this chapter, I used this model as the conceptual framework to examine how professional development sessions affected Annabelle's classroom practice, her students' learning practices and her pedagogical beliefs and attitudes on the use of technology in teaching ESL in her particular context. Changes in her beliefs and practice were identified by studying relevant data which were gathered and then interpreted as changes in her own practise that led to changes in her students' practices in learning.

5.4 The "one-off" professional development 1 session (PD1)

In Part 2 of this chapter, Annabelle's usage of technology has been identified as 'low level' due to her beliefs and actions on the usefulness of technology to support her roles in meeting her students' particular learning needs. This is also due to her skill in using Cidos, which, despite having attended PD1, was limited to uploading some lesson notes to be downloaded by her students. Data from the initial interview session (IA1), classroom observation (OA1) and the second interview session (IA2) were analysed, revealing central themes about PD1 session as shown below:

- Content
- Organisation
- Authority's competencies
- Support

5.4.1 Content

Annabelle's descriptions during the initial interview session revealed that the content of the first professional development session (PD1) emphasised mainly on the development of lecturers' certain technology skills and less on developing their understanding of the meaning and the teaching and learning pedagogy regarding the use of Cidos as an online

learning platform. During the initial interview session (IA1), Annabelle stated: "professional development for Cidos is not sufficient", and when she was requested to elaborate her point she said that the instructor "only touched a little bit at the beginning about blended learning,…only showed how to use Cidos to upload all the e-contents and update info about our course, module" (ibid). Annabelle continued revealing about the PD1 content that lack of input on blended learning pedagogy when she said: "at the end of the day, they told you whether your module has become blended or not,… I mean blended in what sense?" (ibid). Annabelle's responses revealed that PD1 session mainly developed her technological knowledge on doing certain tasks, which were to upload a certain amount of e-contents and to update her Cidos platform, she stated, "we only upload our materials there since we no longer print the modules. The rest is complicated" (IA1). Annabelle's response in the second interview session (IA2) also revealed lack of technological content when she stated her reason for not using Cidos in her classroom which confirms her statement about lack of professional development (IA1) on the features and functions of Cidos that seemed to make her feel uncomfortable to use the technology.

5.4.2 Organisation

Annabelle's data also revealed a poor organisation of PD1 session when she said: "everything in one go so not enough time for me to actually digest all that was given" (Interview 1, IA1). As somebody who believes herself as "not that IT-savvy" (ibid), she stated that during the session, she felt left behind as she said, "I couldn't really catch up. Maybe it (PD1) was good for IT-savvy people, but not really for me" (ibid). As a result, she was unable to gain sufficient knowledge that would enable her to understand the features and operation of Cidos and thus, did not have "enough time to complete tasks" (ibid), which was to upload a certain number of e-contents onto her Cidos platform and updating her Cidos platform. This has also led to a rather unpleasant experience she felt at the end of the professional development session when she stated, "my module is still not acknowledged as a blended module" (ibid). This seemed to have affected her confidence level, making her believe that they are truly "complicated" (ibid). This also

indicates the need for the continuation of professional development that provides more time for understanding to take place.

5.4.3 Authority's competencies

During IA1 session, Annabelle's descriptions revealed her frustrations toward the instructor as the authority who seemed to be less aware of the differences in lecturers' skills in utilising technology, when she stated that the instructor "taught very fast" (IA1). Annabelle too, seemed to be frustrated about not being made clear of the meaning and pedagogical practices of blended learning as she stated that the instructor "just told us about the combination of face-to-face and online learning, not how to carry it out" (ibid) and that during PD1, they "only learned about Cidos, mostly how to upload stuff to transform our module into blended module" (ibid). This situation, according to Chapelle (2003) happened because the instructor does not have the sufficient knowledge about the content of the professional development about ESL teaching and learning, as he is a senior lecturer teaching Architectural courses from civil engineering department who has never taught English courses.

These feelings of frustrations created some kind of 'distrust' toward the newly learnt knowledge, confirming with her existing beliefs that blended learning and Cidos are "complicated" (ibid). The newly learnt knowledge, according to Rokeach' scheme, is a type D belief; positioned as a peripheral belief in Annabelle's belief system, its acceptance depends on Annabelle's belief in the instructor as the authority in PD1, as explained by Rokeach "believing in the credibility of a particular authority implies an acceptance of other beliefs perceived to emanate from such authority" (p.10). This explains that even though "change in classroom practice" (Guskey, 1986, 2002) was seen occurred when Annabelle asked her students whether they had downloaded the lesson notes she uploaded earlier onto her Cidos platform (OA1), it could be improved by further professional development session conducted by instructors with better competencies (knowledgeable in participants' different professional development needs, content of professional development etc.).

5.4.4 Support

Annabelle's responses during IA1 revealed the absence of supports in terms of technical and collegial when she stated the reason why she still could not complete her tasks on updating her Cidos platform after attending PD1. She said, "no more professional development after that (PD1)" (Interview 1, IA1) and "if I were to learn from my colleagues that would take up their time because they are busy too" (ibid). This suggests disadvantages of one-off professional development and the need for continuous professional development programmes to be carried out that will give lecturers ample time and space to understand the reasons behind the new instruction (Fullan, 2007), the professional development content and to allow practices to take place.

Extract	**Code**	**Themes**
"…we only upload our materials there since we no longer print the modules for them. The rest is complicated" (IA1)	Technological knowledge (TK) (lack of TK to utilise Cidos).	Content
"Only learned about Cidos, mostly how to upload stuff to transform our module into blended module" (IA1)	Theoretical understanding (lack of BL & Cidos pedagogy)	Content
"I only know how to upload text files that's all. As I told you, the rest is complicated and so I don't use it that much" (IA2).	Technological knowledge (TK) (lack of TK to utilise Cidos).	Content
"Mr. J taught very fast, I couldn't really catch up. Maybe it (the	Instructor's skill (participants' learning needs)	Authority's competencies

session) was good for IT-savvy people, but not really for me" (IA1)	Pacing of professional development (too fast for less IT-savvy lecturers)	Organisation
"Just told us about combination of face-to-face and online learning, not how to carry it out" (IA1)	Instructor's knowledge (content of the session, lack of pedagogical knowledge)	Authority's competencies
"No more professional development after that…if I were to learn from my colleagues that would take up their time because they are busy too" (IA1)	Lack of technological support	Support
	Lack of collegial support	Support

Table 7 Extracts of Annabelle's interview data

5.4.5 Effects of PD1 on Annabelle's classroom practice

Freeman (1986) describes change as a gradual process:

> *"Change does not necessarily mean doing something differently; it can mean a change in awareness…Change can be an affirmation of current practice… Change is not necessarily immediate or complete. Indeed some changes occur over time" (pp.29-30).*

Annabelle's data revealed some changes in her classroom practice after attending PD1, from not using to starting to use technology/Cidos to deliver learning materials to her students, when she stated that "I use it (Cidos) to upload materials for our modules" (Interview 1, IA1) and "students get their learning materials from there" (ibid). Though this change may also due to the latest instruction for the ESL lecturers to only use Cidos to

upload learning materials for their students, without PD1 which, to a certain extent had developed lecturers' knowledge on technology, Annabelle may not have started using Cidos in her context at all.

Another shift which was revealed by Annabelle's data during observation (Observation 1, OA1) session was her action which could be interpreted as guiding her students toward autonomy, using technology when she reminded them to log into their Cidos platform and download reading text for their lesson (OA1). This shift was also revealed by Annabelle's own words during a short interview session (Interview 2, IA2) which was conducted after the observation when she described her action "these students, I have to keep reminding them about where they need to go, what they need to do in order to get their learning notes" (IA2). The act of guiding students towards autonomy and developing this particular skill may not have happened before the instructions for blended learning and the use of Cidos, since students were given the printed course modules at the beginning of a new semester.

5.4.5.1 Effects of Annabelle's classroom practice on students' learning conducts

Changes in Annabelle's practice which was discussed above, although at an early stage, seemed to have impacted her students' actions from not utilising Cidos at all to starting to use Cidos for their ESL course. During my visit to Annabelle's classroom (Observation 1, OA1), a small number of students were seen holding and reading their study notes, and when Annabelle asked them whether they manage to download and read the reading texts for their lesson on that particular day, they said: "yes Miss". Four of them raised their hands when Annabelle asked: "those who actually logged into Cidos, put up your hands" (ibid). During the second interview session, (Interview 2, IA2) that took place in the staff room shortly after OA1 session, Annabelle, who looked excited over her students' action showed me the names of her students who actually visited her platform to download their study notes. With a smile on her face, Annabelle said to me "4 students logged into Cidos, out of 26".

The students' actions also suggested that their level of autonomy was shifting, as they started to shift from being quite dependent on their lecturers when Annabelle described them as learners who "mainly depend on their learning modules, which we prepared and printed for them" (Interview 1, IA1) to those who began to take charge of their own learning, starting by "getting their learning materials from Cidos" (Interview 2, IA2). Although Annabelle later described this as "quite disappointing" (IA2) because "only 4 students logged into Cidos, out of 26" (ibid), she seemed to realise that change, although small, was beginning to take place in her context, when she stated "at least better than zero, the rest need to be constantly reminded" (ibid).

5.4.5.2 Effects of students' learning conducts on Annabelle's beliefs and use of technology

Annabelle's descriptions during the second interview session (IA2) revealed a shift in beliefs about learners and learners' needs in terms of awareness about her students' capability in being autonomous when a small number of them started to use Cidos to download their learning materials. Annabelle stated "at first I thought only the class monitor would be the one who bothers to get the notes from Cidos, but then in today's class I saw a few of them got the notes as well" (IA2). This seemed to make her aware of the need to make the rest of the class use Cidos as well when she said: "the rest need to be constantly reminded" (ibid) by "I'll remind them in class and in our group Whatsapp as well" (ibid).

During IA2 session Annabelle stated, "still, I haven't uploaded all the e-contents so they (IT unit) won't acknowledge my CE module a blended module" (IA2), because "there's more stuff I need to learn about Cidos" (ibid). These particular responses show another change in beliefs in Annabelle's roles as a lecturer to meet students' need, in terms of increased awareness on the need to improve her skills in using technology when she stated her dissatisfaction of her current technology skills in utilising Cidos. Clearly, at this stage, her level of confidence and attitudes toward Cidos have been positively reshaped by a group of her students' responses and actions, which seemed to have also reshaped

her initial beliefs about the ease of use of Cidos as a result of the influence of PD1 authority's capabilities.

5.4.6 Barriers for changes

Annabelle's responses revealed the needs to take part in ongoing professional development sessions, after attending PD1 which has several issues regarding its content, organisation, instructor's competencies and continuous support so that she could develop her understanding and skills to utilise technology in her ESL teaching context effectively. Her data also showed possible further developments in changes in her classroom practise and students' learning, which could strengthen her beliefs and attitudes towards the utilisation of Cidos in her teaching context as well. However, this could be slowed down or hindered by several issues. During the initial interview session, Annabelle's descriptions revealed lack of technology when she said *"at times I find it tedious to bring the LCD projector and laptop from class to class, as they are heavy"* (Interview 1, IA1) and lack of access to the internet "*the wi-fi connection outside our staffroom is bad. Cannot use it (Cidos) in our class"* (ibid) as the challenges she faces in using technology in her context. These particular issues were also stated in an account of my visit to her class (Observation 1, OA1) where I wrote *"there is no computer or LCD projector in the room. The wi-fi coverage is either so weak, or almost not-available at all"*.

Extracts	Codes	Themes
Use it (Cidos) to upload materials for our modules they call e-content. Students get their learning materials from there because we no longer print our modules for them. (IA1) Anna asks her students if they managed to log into Cidos and	Start using Cidos (to deliver learning materials to students) Developing autonomy (guiding students toward autonomy)	Change (development of change in classroom practice)

download the learning materials she uploaded a few days ago. (OA1) Reminds her students that they need to log into Cidos as they won't be given printed learning materials anymore. (OA1)	Developing autonomy (guiding students toward autonomy)	
4 students logged into Cidos, out of 26 (IA2) The rest of them, I have to keep reminding them about where they need to go, what they need to do in order to get their learning notes (IA2).	Using technology (starting to use Cidos) Developing autonomy (guiding students toward autonomy)	Change (development towards change in students' learning practices)
At first I thought only the class monitor would be the one who bother to get the notes from Cidos but then in today's class I saw a few of them got the notes as well. (IA2) Still I haven't uploaded all the e-contents so they (IT unit) won't acknowledge my CE module a blended module, because there're more stuff I need to learn about Cidos. (IA2)	Belief about learners Beliefs about role (to meet learners' new needs)	Change (in lecturers' beliefs and attitudes)

At times I find it tedious to bring the LCD projector and laptop from class to class, as they are heavy. (IA1)	Lack of technology	Barriers (for further developments in change).
The wi-fi connection outside our staffroom is bad. Cannot use it (Cidos) in our class. (IA1)	Lack of access to the internet	
There is no computer or LCD projector in the room. The wi-fi coverage is either so weak, or almost not-available at all" (OA1).	Lack of technology Lack of access to the internet	

Part 3 (b): The influence of PD2 on Annabelle's beliefs and utilisation of technology in her ESL teaching context.

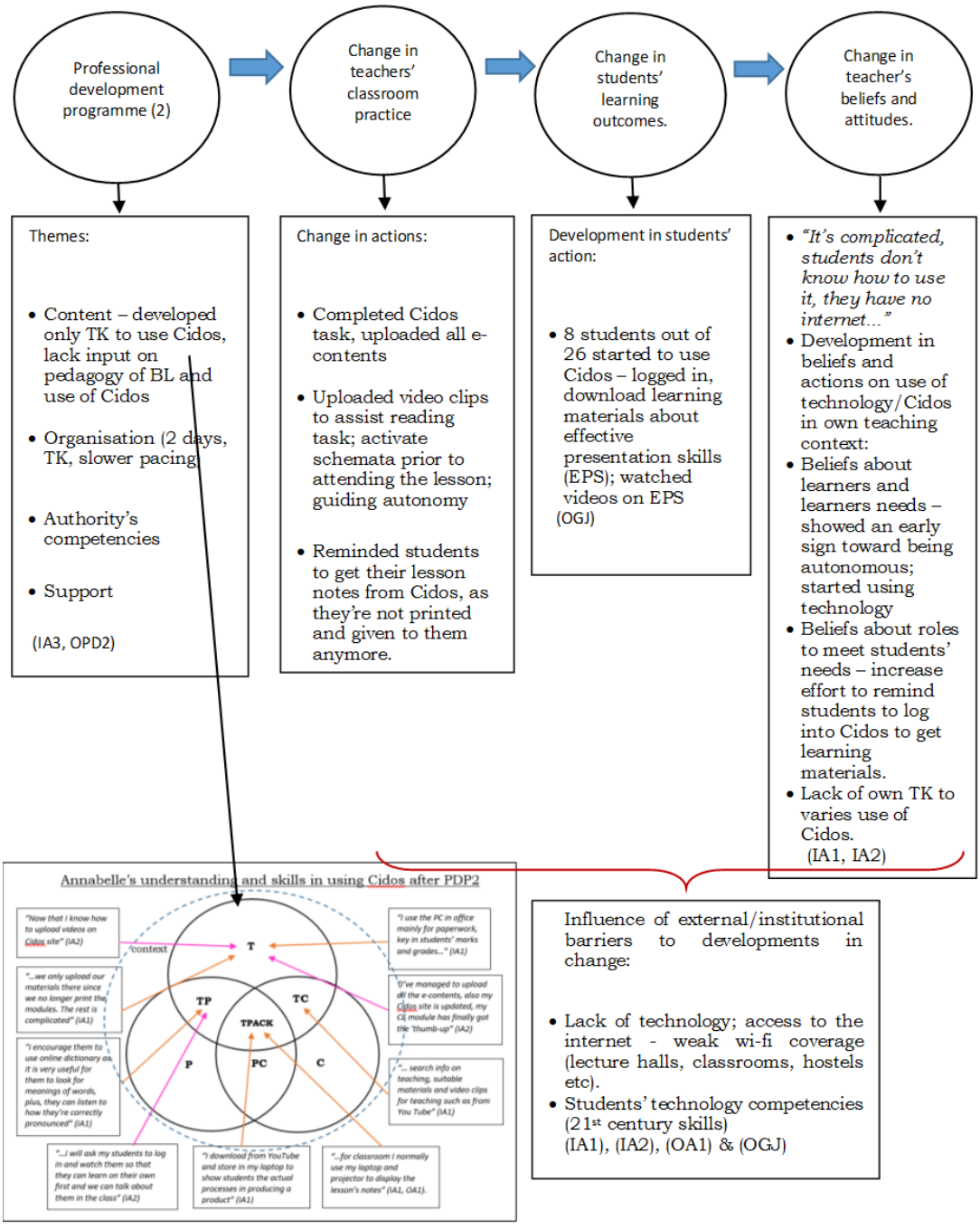


Figure 8 PD2 and changes in Annabelle's practice and beliefs on technology

5.5 The “ongoing” professional development 2 session (PD2)

By the end of January 2015, which was about two months after professional development 1 (PD1) was conducted, the overall percentage of ESL lecturers who used Cidos was still below 60%. The English Language Unit e-learning coordinator decided to conduct a follow-up programme - an in-house Cidos and blended learning workshop to increase the percentage (the target set by Department of Polytechnic Education (DPE) is 60% for every Unit in a department), which I had the opportunity to observe the session.

In the earlier section of Part 3, Annabelle’s usage of technology has been identified as ‘low level’ due to her beliefs on the use of technology to support her roles in meeting her students’ particular learning needs. This includes her skill in using Cidos, which, despite having attended PD1, was limited to uploading some lesson notes to be downloaded by her students. Data from Interview 1 (IA1), professional development observation (OPD2) and the third interview session (IA3) were analysed, revealing central themes about PD2 session as shown below:

- Content
- Organisation
- Authority’s competencies
- Support

5.5.1 Content

The data obtained from my visit to PD2 session (see the account of Observation 2, OPD2) revealed that the content of the programme was similar to PD1, as described by Annabelle during the initial interview session (IA1). Its focus was mainly on the development of lecturers’ technical skills to be able to utilise Cidos in their teaching context, and not so much on developing their understanding of blended learning pedagogy which involves the use of Cidos as an online learning platform. This was confirmed by Annabelle’s responses during the third interview session (IA3) which was conducted shortly after PD2 session when she said: “pretty much the same like the one

we attended before". However, this appeared to be an advantage for Annabelle who was able to revisit and relearn the features and functions of Cidos when she stated that the session "helped me to catch up with few things about Cidos" (ibid) which she missed out in PD1 session, resulting in incompletion of her Cidos tasks. Apart from that, she too had the chance to develop further her technological skill where she "also learnt some new stuff like uploading video clips" (ibid). The chance to attend the similar session too creates a sense of familiarity towards the content of the session as Annabelle said: "well maybe because this was my second time attending this Cidos stuff so yeah, it helped" (ibid).

However, PD2 still lacked the pedagogical content that could influence the effectiveness in Annabelle's technology utilisation when her understanding of the concept of 'blended learning' was still undeveloped. During IA3 session, Annabelle stated that the instructor "didn't explain about the concept of blended learning" and thus, "I still don't know much about it" (ibid). Besides, Annabelle's action on finding suitable materials online (such as hours she spent to search for suitable video clips which she believes could assist her students' understanding while reading the texts she uploaded onto Cidos), instead of asking her students to work together independently and search for suitable video clips revealed her pedagogical beliefs on lecturer-centred approach remained as unchallenged, due to the ongoing professional development session (PD2) which lacked content on the pedagogy of teaching and learning using technology.

5.5.2 Organisation

Annabelle's data also revealed that PD2 was better than PD1 in terms of its organisation when she said "this time the flow was better cause it's slower, so I could follow" (Interview 3, IA3) and thus, meeting the needs of those who are "not that IT-savvy" (Interview 1, IA1) like her. This was evident during OPD2 session when the instructor and the IT technician, "after demonstrating the steps to upload the materials, move from one desk to another to check on the participants' progress" (Observation 2, OPD2) and "lecturers were asked if they have any problem with their Cidos" (ibid), before moving on to the next topic. This appeared to have a positive impact on Annabelle's motivation and self-confidence when

she stated that she “managed to complete uploading all the e-contents” (ibid) and her Communicative English module “has finally got the ‘thumb-up’ (an icon which is put next to a lecturer’s name in Cidos indicating the course module has achieved active online learning status)” (ibid).

5.5.3 Authority’s competencies

During IA1 session, Annabelle’s descriptions revealed her frustrations toward the instructor as the authority who seemed to be less aware of the differences in lecturers’ skills in utilising technology, when she stated that the instructor “taught very fast” (IA1). In PD2 however, her initial attitudes seemed to have been reshaped toward the instructor as the authority, when she stated: “Miss H conducted the professional development better than Mr J” (Interview 3, IA3) where the contents “were clearly explained” (ibid) compared to PD1.

Although the instructor is not blended learning or Cidos expert, as an ESL lecturer who is also the e-learning coordinator for the English Language Unit, she was probably more aware of her participants’ backgrounds or skills in technology, as stated by Annabelle in IA3 session “being one of us, I’m sure she knows our levels, especially the slow ones like me” (ibid). Having the advantage of knowing the participants’ needs was useful as this became the instructor’s valuable input into planning and organising the in-house professional development session (PD2) as effective as she could. This suggests professional development needs analysis (TNA) to be conducted before a professional development session is carried out in the future. To Annabelle, the authority’s ability to organise a PD session that met her needs appeared to be an invaluable experience that reshaped her frustrations and attitudes toward PD1 and raised her self-confidence in relearning Cidos during PD2 session.

Annabelle’s self-confident created some ‘trust’ toward the newly learnt knowledge, reshaping her existing beliefs that blended learning and Cidos are “complicated” (Interview 1, IA1). The newly learnt knowledge, according to Rokeach’ scheme, is a type

D belief; positioned as a peripheral belief in Annabelle's belief system, its acceptance depends on Annabelle's belief in the instructor as the authority in PD1, as explained by Rokeach "believing in the credibility of a particular authority implies an acceptance of other beliefs perceived to emanate from such authority" (p.10). This type D beliefs, according to Rokeach, since not core beliefs, are less resistant to change.

5.5.4 Support

During the PD2 session, it was apparent that lecturers who are "not that IT-savvy" (Interview 1, IA1) like Annabelle had the opportunity to revisit Cidos, relearn about its features and functions, practise uploading teaching and learning materials and in doing so, received immediate technical support from both the instructors and her colleagues. By getting such support, Annabelle, who described herself as someone who does not have "much confidence if there are complicated steps to use technology" (ibid), was able to overcome some hiccups and frustrations while trying to transfer her technological knowledge into practice, by uploading video files onto Cidos. In her own words, Annabelle explained "I was trying to work on some new things, like uploading some videos which I downloaded from YouTube as activities for week 7 but I kept getting stuck. Too many buttons on the page, I got confused, but Miss R (the technician) helped me, so it's all sorted now" (Interview 3, IA3).

Annabelle's responses during IA1 also revealed a lack of supports in terms of collegial when she stated the reason why she still could not complete her tasks on updating her Cidos platform after attending PD1. She said, "no more professional development after that (PD1)" (Interview 1, IA1) and "if I were to learn from my colleagues that would take up their time because they are busy too" (Interview 1, IA1). However, Annabelle's data which was obtained during PD2 observation (OPD2) and IA3 sessions revealed the availability of collegial support which the ESL lecturers could get when attending a series of in-house workshop like PD2. This was evident during my visit to the session; Annabelle was seen talking to her colleague, who stood next to her. Both kept pointing at her PC screen while talking (OPD2). Annabelle's responses during IA3 session regarding the

event described above confirmed how these kinds of supports are meaningful and beneficial to her when she stated “I asked Leia to check whether all the updates that I made on the site were correct before they’re saved and ready for the students to see” (Interview 3, IA3).

Extract	**Code**	**Themes**
Pretty much the same like the one we attended before (PD1) but it helped me to catch up with few things about Cidos. I mean they taught us the same thing, how to upload the e-contents, update our Cidos. Also learnt some new stuff like uploading video clips. (IA3)	Technological knowledge (TK). (effect). TK TK	Content
Well, I’ve managed to complete uploading all the e-contents, my CE module has finally got the ‘thumb-up’. (IA3)	TK (effect)	Content
You see in the workshop Hannah didn’t explain about the concept of blended learning, so I still don’t know much about it. (IA3)	Theoretical understanding(lack of BL & Cidos pedagogy) (effect)	Content

This time the flow was better cause it's slower, so I could follow. (IA3)	Pacing	Organisation
After demonstrating the steps to upload the materials, move from one desk to another to check on the participants' progress (OPD2)	Pacing	
Well, I've managed to complete uploading all the e-contents, my CE module has finally got the 'thumb-up'. (IA3)	Pacing (effect)	Organisation
Hannah conducted the professional development better than Mr. J. Things were clearly explained, of course she just followed the manual but she explained them one by one. (IA3)	Instructor's delivery skills	Authority's competencies
Being one of us, I'm sure she knows our levels, especially the slow ones like me. (IA3)	Instructor's knowledge (about the participants)	Authority's competencies
I was trying to work on some new things, like uploading some videos which I downloaded from	Technical support (instant)	Support

YouTube as activities for week 7 but I kept getting stuck. Too many buttons on the page, I got confused but Miss R (the technician) helped me so it's all sorted now. (IA3) I asked Leia to check whether all the updates that I made on the site were correct before they're saved and ready for the students to see. (IA3)	Collegial support (instant)	

5.5.5 Effects of PD2 on Annabelle's classroom practice

"For changes to be of any true value, they've got to be lasting and consistent." – Tony Robbins
"Any change, even a change for the better, is always accompanied by drawbacks and discomforts." – Arnold Bennett

5.5.5.1 Change in Annabelle's actions

Annabelle's data revealed a continuation of changes in her classroom practice due to her technological knowledge being further developed after attending PD2, resulting in completion of her Cidos tasks and the acknowledgement of her Communicative English (CE) module a blended module. Apart from that, she stated that she "also learnt some new stuff like uploading video clips" (Interview 3, IA3) and did manage to put her newly gained skill into practice by actually uploading some video clips which she downloaded earlier from YouTube. During interview 3 session which was conducted after PD2, Annabelle stated her intentions on how her students would utilise Cidos when she said that "my CE module is a blended module now, I'll ask my students to actively use it" (ibid). She also stated how she intends to carry out her blended lesson, "I'll ask my students to

log in and watch them (the video clips she downloaded from YouTube) so that we can talk about them in the class" (ibid).

Annabelle's descriptions in reflective Online Group Discussion (OGD) revealed the implementation of her plan which she stated in IA3 session, which indicates a continuation of change in classroom practice from not using Cidos (before PD1), to using Cidos "only to upload our materials there since we no longer print the modules" (Interview 1, IA1), then doing more with it when she said, "I uploaded the 2nd half of the notes and 2 video clips on oral presentation (OP) skills on Cidos last Tuesday" (OGD). Her responses in the OGD also revealed a continuation of her action on guiding her students toward autonomy when she stated: "last Wednesday I reminded them to look into Cidos to watch two Video clips and download the notes on OP (Oral Presentation)" (ibid).

5.5.5.2 Change in students' learning conducts

The continuation of Annabelle's uses of technology in her teaching context after attending PD2, which was discussed above, seemed to continue impacting her students' as well. Annabelle's responses in the reflective Online Group Discussion (OGD) revealed further developments in her students' actions in using technology, when a few more logged into Cidos, as stated by Annabelle, "8 (out of 26) students logged into Cidos and watched the video clips on effective presentation skills" (Online Group Discussion, OGD).

A small increment in the number of students who started to use Cidos also shows that development in autonomy is consistently taking place, which Annabelle seemed to realise when she said: "still, it's good to know that more students are using Cidos even just to get their notes" (ibid). These developments, if consistently nurtured, could potentially lead to better learning outcomes, as Annabelle seemed to realise when she stated that her students who "watched the video and read their notes were more enthusiastic when we discussed the content of the reading text" (ibid).

Although this is an increment compared to only four students who managed to log into Cidos and download their learning notes in the previous lesson, Annabelle said this is still problematic as "I still had to explain a lot to those who didn't to their homework, used up most of our time" (ibid).

5.5.5.3 Change in Annabelle's pedagogical beliefs

Annabelle's descriptions during the earlier interview session (IA2) revealed a further shift about her beliefs about learners and their needs in terms of their capabilities of being autonomous and their technological competencies in using Cidos in learning ESL, which seemed to have affected her beliefs about her roles to meet her students' needs. After PD2, upon seeing a small increment on the number of students who used Cidos to get their learning notes and watch video clips on effective oral presentation and were more prepared to take part in the class activity like discussion, her beliefs about her students' needs to be able to utilise Cidos seemed to continue reshaping. For example, she seemed to be aware of what she could do more with Cidos, when she stated her awareness about other features and functions of Cidos, the "chat room" (Online Group Discussion, OGD) that "maybe they can use that to practise written communication" (ibid). This could be interpreted as a potential development in transition in the use of technology from "low-level" (Ertmer, 2006) to high-level usage that also indicates a development in the change in teaching approach, from lecturer-centred to a more student-centred.

5.5.6 Barriers for changes

Annabelle's data revealed her awareness of the causes that influence her students' use of Cidos, apart from having the same issue, i.e. lack of access to technology and the internet. During a focus group session which I conducted at the end of my fieldwork, Annabelle stated: "it's complicated, some students don't know how to use it (Cidos), and they also have no access to the internet…" (Focus Group, FG). She went on suggesting *“we need to make noise, get the IT unit, polytechnic to improve the connection to the internet”* (ibid). Annabelle also revealed her awareness of her role to meet the particular

students' needs in using Cidos as the LMS for the CE blended course by organising some workshops at the beginning of a new semester, to *"introduce Cidos to semester one students and"* (FG) and *"how to use them for this course"* (ibid).

5.6 The potentials of online group discussion (OGD) as "non-formal" professional development session.

Annabelle's data also revealed the need for her to continuously participate in professional development sessions, particularly the non-formal kinds that provide collegial support whenever she needs it. This was evident during the in-house professional development session (PD2), Annabelle "was observed as getting both technical support from the professional development instructor who seemed more like a mentor (as they are colleagues), and also moral support from her colleagues with advanced technological skills like Ella" (Professional development Observation, OA2 and Researcher's Journal, RJ). Her responses during the online discussion session seem to support this whenever she wrote about her frustrations about her attempts to implement Cidos and her students' responses toward her instructions, and she received responses either from Ella or me, synchronously or asynchronously (RJ). Annabelle's responses in OGD session (marked as OGD in the table below) showed how the session connected the participants after the first and second professional development sessions ended.

Extracts	Codes	Themes
My CE module is a blended module now, I'll ask my students to actively use it. (IA3)	Intention toward action.	Change (development of change in classroom practice)
I'll ask my students to log in and watch them so that we can talk about them in the class. (IA3).	Intention toward action	

I uploaded the 2nd half of the notes and 2 video clips on oral presentation (OP) skills on Cidos last Tuesday (OGD). Last Wednesday I reminded them to look into Cidos to watch two Video clips and download the notes on OP (OGD).	Implementation of intended action Developing students' autonomy.	
8 (out of 26) students logged into Cidos and watched the video clips on effective OP skills (OGD). Many still didn't log in, I'll have to keep on telling and reminding them about it more often (OGD). You can see those who watched the video and read their notes were more enthusiastic when we discussed about the content of the reading text (OGD)	Students' actions (more starting to use technology) Developing students' autonomy Learning conducts (development towards better learning outcomes)	Change (development towards change in students' learning conducts and outcomes)
There's this chat room in Cidos, maybe they can use that to practise written communication. (OGD)	Learners and learners' need (change in development)	Change (in lecturers' beliefs and attitudes)

	Roles to meet learners' new needs (change in development)	
It's complicated, some students still don't know how to use it (Cidos), also the wi-fi is either so slow, or not available at all (FG). I still had to explain a lot to those who didn't to their homework, used up most of our time (OGD)	Students' technical skills. Lack of technology (access to the internet) Lack of pedagogical knowledge on BL.	Barriers (for further developments in change).

5.7 Conclusion

Annabelle's data revealed that her pedagogical beliefs towards the teaching and learning of ESL are linked to her ESL learning and professional development experiences (Richards et al. 2001; Pajares, 1992, Nespor, 1987; Ertmer, 2006) that started when she was very young and spanned over a long period. Based on Rokeach's (1968) scheme, Annabelle's beliefs about her ESL lecturers is identified as the authority belief, the Type C beliefs that are "important and generally resistant to change" (p.10). Her beliefs on her lecturers' teaching are explained as Type C and D beliefs and thus less resistant to change. This suggests the possibility of Annabelle's pedagogical beliefs to be shaped or re-shaped by other authorities such as pre-service or in-service professional development instructors, or, by other influencers. For example, Annabelle's beliefs about the effectiveness of specific teaching approach that have made her a successful language learner was re-shaped by elements such as series of effective professional development programmes (Guskey 1986, 2002; Joyce and Showers; 2002; Ertmer 2005, 2010; Chapelle 2006; Hubbard & Levy 2006).

Using Guskey's model of lecturer change (1986, 2002) as a framework to identify, trace and interpret changes in Annabelle's classroom practice and pedagogical beliefs after attending two professional development sessions, changes in terms of Annabelle's actions and beliefs in ESL teaching and the use of technology in her ESL teaching context were evident, as a result of some development in her technical and pedagogical skills, supporting Rokeach's scheme that type D beliefs are less resistant to change. However, Annabelle's data also revealed that further development in changes could be inhibited by barriers such as lack of technology and access to the internet (Ertmer, 1999, 2005; Lam 2000, Ertmer & Ottenbreit Leftwich 2010), students' technological competencies (Fulton,1992) and low-quality professional development programmes (Guskey 1986, 2002; Joyce and Showers; 2002; Ertmer 2005, 2010; Chapelle 2006; Hubbard & Levy, 2006).

Chapter 6: Ella

This chapter is divided into 3 parts; Part 1 is about Ella's ESL teaching context, Part 2 is about exploring Ella's pedagogical beliefs and use of technology in teaching ESL in her context, and Part 3 is about examining the effect of "one-off" professional development 1(PD2), "ongoing" professional development 2 (PD2) and "non-formal" professional development (online group discussion - OGD) towards Ella's beliefs and actions on the use of technology in her ESL teaching contexts.

Part I: Ella's ESL teaching context.

6.1.1 Ella as a person

Ella holds a bachelor degree in Teaching English as a Second Language (TESL) from a prestigious local university. Although English is positioned as a second language in Malaysia, Ella claims English as her first language as it is the language she uses to communicate with her family members, at home. She received her primary and secondary education in convent schools. Ella states that she loves learning languages and confesses that she scored in both Malay and English papers at SPM (The Sijil Pelajaran Malaysia (SPM), or the Malaysian Certificate of Education is a national examination which is equivalent to O-level/GCSE level.

After completing her form five (equivalent to year 7 in the UK) and gaining her SPM results, Ella did not want to take A-level studies and thus, applied to study at a local university that accepts SPM result holders into a 5-year teacher training programme which the trainees graduate as bachelor in Teaching English as a Second Language (TESL) degree holders.

Ella has been working as a lecturer for eight years. Her first placement after gaining her teaching qualification was as a lecturer teaching ESL module at a polytechnic in the southern part of Malaysia for six years. She was then transferred to Adiwira Polytechnic

and had been working there since June 2014. Considering herself as *"still a newcomer"* (IE1) the polytechnic, Ella was still trying to familiarise herself with the new work environment and expectations. She is close to Annabelle and Daisy, two lecturers in the same department, whom she found *"very cooperative, reliable and helpful"* (ibid). During the fieldwork, I could see that Ella was very dedicated to her work. She was always organized when it comes to keeping all the documents related to her work and teaching.

6.1.2 Students

Ella teaches Communicative English (CE) modules to both technical and commerce students at diploma levels. Regarding her students' English language proficiency levels, Ella described them as *"most of them are intermediate to low"* (Interview, IE1). She went on with her descriptions by saying that in terms of speaking ability, her students are "…*very shy to speak, having confidence issues, grammar issues, vocabulary issues"* (ibid) and Ella believes that this is the case because *"I think they don't have the environment that encourages them to speak in English*" (ibid). Apart from that, her classroom also consisted of some students "*who do not understand what I'm saying"* (ibid) and thus, *"have to get their friends to translate for them, so it's actually quite bad"* (ibid). This is probably related to one of the minimum entry requirements of the institution that allows students who did not pass their English at Sijil Pelajaran Malaysia (SPM – Malaysia Certificate of Education) level, a qualification which is equivalent to GCSE O-levels, to further their education at diploma levels at the institution (DPE, 2015).

6.1.3 Teaching and learning resource and facilities

In terms of resources, Ella does not have a specific room to teach her students as classrooms or lecture rooms are shared with other lecturers who take a turn to use the rooms, following the timetable set by the English Language Unit committee. In the staffroom, Ella is allocated a personal computer (PC). She has access to a laserjet printer and two LCD projectors which she shares with other ESL lecturers.

6.1.4 The institution

The institution managers, in line with the Polytechnic Transformation Agenda which aims to strengthen the teaching and learning processes at polytechnics through technology integration, instructed lecturers to adopt blended learning approach and actively use of Cidos in the teaching and learning of their subjects. In order to equip lecturers with skills that will enable then to implement blended learning and use Cidos actively, one-off professional development/workshop on BL and Cidos were conducted weekly by the e-learning key person and the professional development unit.

Part 2 (a): Ella's pedagogical beliefs and practice in her ESL teaching context.

6.2.1 The origin of Ella's pedagogical beliefs.

Pajares (1992) who conducted an extensive review about studies on lecturers' beliefs concluded them as *"a messy construct"* (p.307), since the meaning of belief were not clearly defined by scholars, and often used interchangeably with other constructs such as knowledge and attitude. Based on Ella's data which I gathered during IE1 and OE1 sessions, I used Rokeach's proposal on beliefs (1968) to describe types of Ella's pedagogical beliefs, their natures, position in her belief systems and their reactions toward change. Ella's data revealed that her beliefs and actions on the use of technology in the classroom are related to her beliefs in teaching ESL in her context. According to Rokeach's scheme, based on their origins and characteristics, Ella's pedagogical beliefs could be considered as Type C and D beliefs. They could be traced back to her past ESL learning and professional development experiences, which I explained in the following sections.

6.2.2 Ella's experience as an ESL learner.

During the initial interview session, Ella's responses revealed that there is a link between her belief about meeting her students' language learning needs in terms of accuracy skills

and her previous ESL learning experience. Ella's descriptions during IE1 session revealed that her pedagogical beliefs on the teaching and learning of ESL were developed and formed early, prior to her enrolment at a convent primary school, by her trusted *'authority'* (Rokeach, 1968, p.10), which was her mother. When she stated that she was raised by her mother who was *"convent educated by the nuns"* (Interview, IE1) as her *"number 1(one) lecturer"* (ibid). Ella further described that her mother "*she was the one who instilled or rather drilled grammatical accuracy when I was very young so my mum was a huge influence"* (ibid) and thus, *"language accuracy is a huge thing for me"* (ibid). According to Ella, it was her mother too who made sure that she was enrolled to convent schools (primary and secondary) so that *"I was educated like her"* (Interview 1, IE1). Because the ideas about the importance of language accuracy and the school were conveyed to her by her mother who was also the *'reference person'* (Rokeach, 1968, p.10) whom she trusted as a child and a daughter, Ella then went to school believing that she was going to the right school to learn English and that her English teachers were highly competent in teaching English.

Ella's initial beliefs were then fostered by her real experience learning English from her teachers as the "*reference persons"* (Rokeach, 1968, p.10), who were her ESL authority at school. This was revealed by Ella when she described her experience learning English where *"during English lesson, I remember half of the lesson were spent on drilling activities, especially on grammar"* (IE1). This particular learning technique seemed to have made Ella a successful language learner.

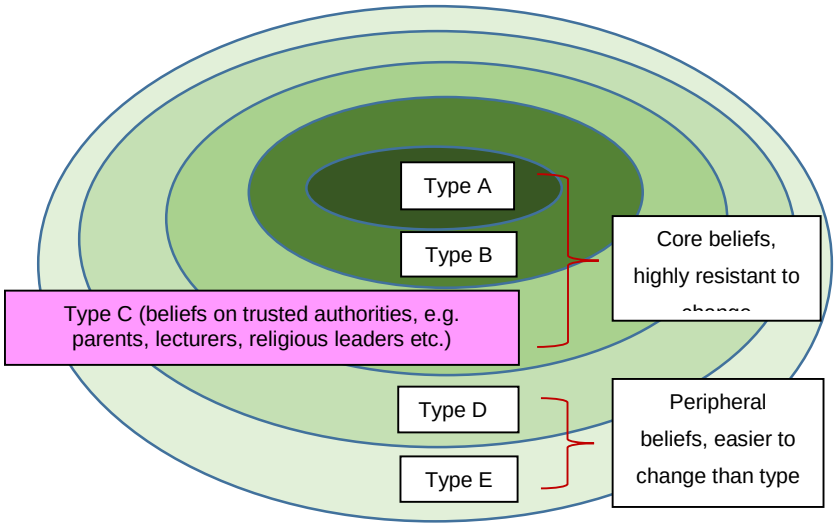
6.2.3 Ella's experience in ESL teacher education.

It appears that Ella's pedagogical beliefs about teaching the CE module were also strongly shaped by previous experience in ESL teacher education. This was stated by Ella during the IE1 session *"things I learned from my bachelor's degree actually I think has a huge impact on the way I teach, even until today"* (Interview 1, IE1). Ella mentioned that her understanding of *"how people acquire second language, second language acquisition theory"* (ibid) as *"those are the things that really impacted me and also*

discourse analysis because I did my dissertation on discourse analysis, so it has influenced the way I teach" (ibid). In her description, Ella gave an example of how her previous ESL professional development impacts her teaching of a particular ESL course (oral communication skills) where she said that she did not "*just teach the students the language forms and functions"* (ibid) but "*I try to cultivate in them the awareness - of this is suitable for this kind of context and when they do roleplay and everything, and I try to instil that in them that when it's suitable to use this and so on"* (ibid).

Regarding her education in technology integration in ESL, Ella recalled her first teacher education experience, which started in 2002, where technology and CALL are a common phenomenon. Regarding her undergraduate course, Ella stated: *"my major is TESL, and my minor is IT (Information Technology)"* (IE1). Having being trained in the area of ELT and IT seemed to have influenced Ella's beliefs about technology use in the classroom. She believes that lecturers' need to understand *"in theory"* (IE1) the appropriate ways to use technology so that students benefit from it. She seemed to aware about the importance to understand technology pedagogy when she stated *"just because one uses technology doesn't mean that he or she is teaching effectively"* (IE1).

6.2.4 Using Rokeach's proposal to understand Ella's pedagogical beliefs



Based on Rokeach's scheme (1968), Ella's pedagogical beliefs could be categorised as the Type C beliefs – the authority belief (here I referred to her mother and her ESL teachers as the "reference persons") (p. 10), which were formed early during Ella's days as an ESL student and is argued as a core belief which is rather resistant to change (Rokeach, 1968, p.10). Throughout her eleven years both at primary and secondary schools, Ella's descriptions of her teachers revealed exposure to the traditional teaching approach that was deeply teacher-centred when she said that the teachers were the ones who held a central role, "my teachers seemed to know everything, I mean, apart from the subject they teach, and that created respect" (Interview 1, IE1). Like Annabelle, Ella also grew up with the image that it was the teacher who speaks and teaches and the students listen and carry out the teacher's instructions. She recalled her language teachers (both Malay and English teachers) as her favourite teachers because she loves "learning about languages" (ibid).

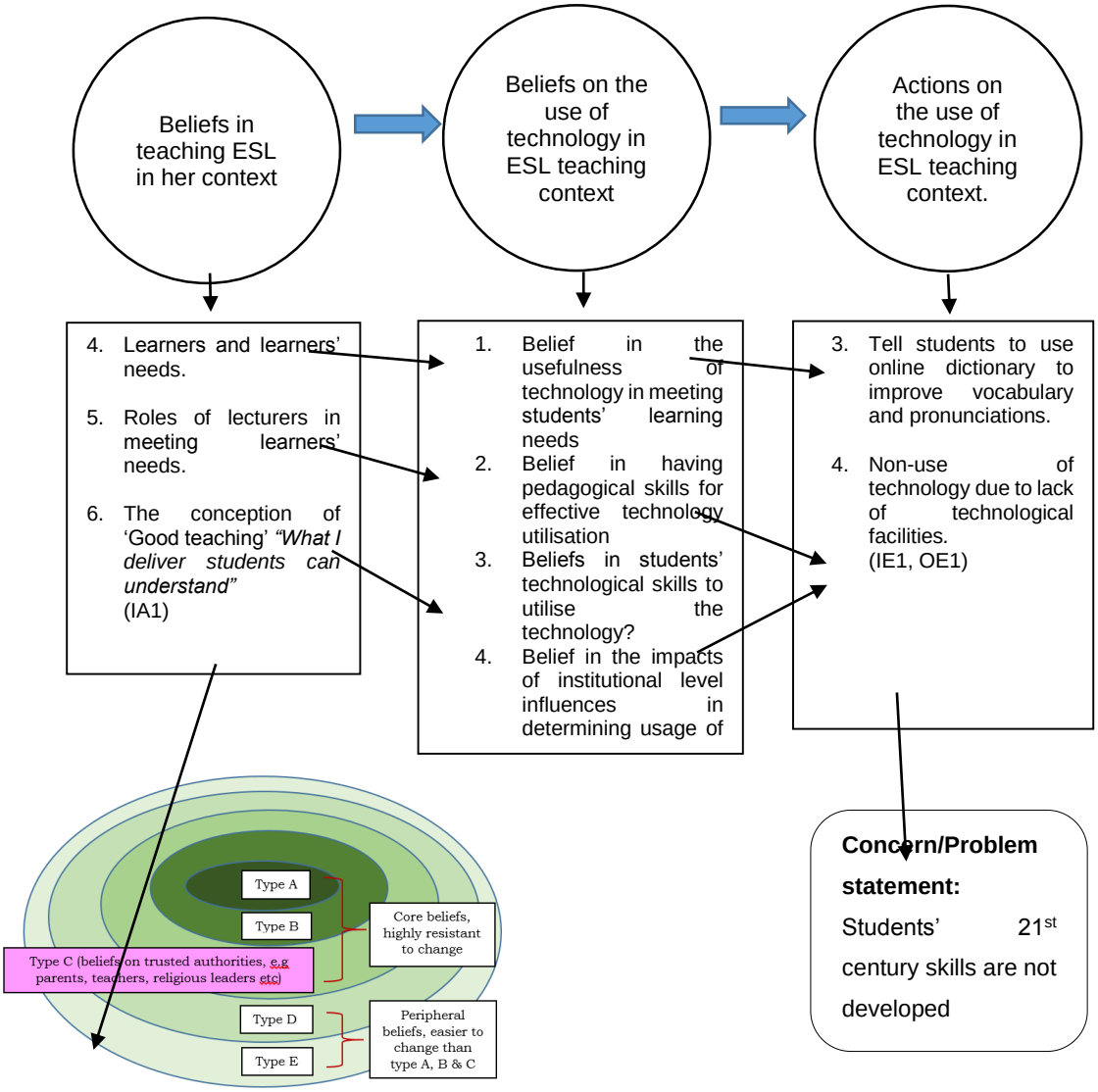
Apart from that, Ella seemed to believe that she became a successful language learner due to the way she was taught by her mother and ESL teachers (Type C belief), which was clearly proclaimed by her during IE1 session when she said, "at home, my mother trained my grammar and my English teachers took over when I was in the classroom" (ibid). She continued "I guess that's why I always got distinctions for my English paper" (ibid). These positive experiences, each of them became "episodic memory"' (Abelson, 1978), resides in a more central position in Ella's core belief systems, and, from time to time developed and accumulated as "affect-based beliefs" (Griffin & Ohlsson, 2001, p.6), became more connected to her personalities. Griffin and Ohlsson argue that this type of beliefs, by virtue of their lack of coherence with the conceptual framework, might be resistant to threats posed by conflicting information and thus, act as filters to any new information which likely to be distorted upon any disagreement, and, even if it is accurately comprehended, it will have little impact (Griffin & Ohlsson, 2001; Ertmer, 2006). Any new knowledge, such as the advantages of student-centred or self-directed learning approaches and technology integration in ESL teaching and learning, which were taught later in Ella's life by other authorities such as her pre-service and in-service professional development instructors, developed and accumulated as knowledge-based beliefs,

became less personal and resided somewhere on the peripheral layers of Rokeach's model.

According to Rokeach's scheme, Ella's beliefs about her ESL teachers is identified as authority belief, the Type C beliefs that are "important and generally resistant to change" (p.10). Her beliefs on her teachers' teaching are explained as Type C beliefs, also known as peripheral beliefs, and are less resistant to change. This information suggests the possibility of Ella's pedagogical beliefs to be shaped or re-shaped by other authorities such as pre-service or in-service professional development instructors, or, by other factors such as her teaching context.

Part 2 (b): Ella's pedagogical beliefs and utilisation of technology in her ESL teaching context.

Ella's descriptions during IA1 and OA1 sessions revealed that there were connections between her pedagogical beliefs and practice on her beliefs and actions on the use of technology in her ESL teaching context.



6.3.1 Beliefs and practice in teaching CE course in her context

This section elucidates Ella's beliefs about the teaching and learning of CE course which shaped and reshaped her beliefs and actions towards the use of technology in her particular teaching context. The following central themes are discussed:

- Learners and meeting their learning needs
- Lecturer's role in meeting learners' needs

6.3.1.1 Beliefs about learners and their learning needs

In the early stages of the initial interview session, the main focus of Ella's discussion was about her students' language proficiency levels in ESL and on meeting her students' learning needs (see 6.2-i), a common role believed to be on top of the list by ESL lecturers elsewhere (Yoshihara, 2012, p. 41), particularly in speaking and communication skills so as to meet the requirements of the Communicative English course module. Some extracts of data from Ella's initial interview session about her pedagogical beliefs on teaching CE module in her contexts is shown in the table below:

Extract of data	Sub-codes	Codes	Themes
Some of them are very good but most of them are intermediate to low and I also have students in my class who do not understand what I'm saying, they have to get their friends to translate for them, so it's actually quite bad I believe that good teaching should always cater to these students' needs for example if you have a class of low proficiency	Largely intermediate to low. Some do not understand English. Good teaching should always cater to students' needs.	Students' language level.	Meeting students' learning needs.

learners you shouldn't teach them difficult stuff which will make them feel fall behind and become demotivated to learn. They're generally weak in basic grammar, which I think is a very crucial component if you want them to be understood when they speak English. Not much emphasis given on teaching grammar items in the module, because this CE module, was developed based on CLT. You know, focuses largely on the fluency. *(Interview, 11.01.2015, EI1)*	Students are generally weak in grammar. Importance of knowledge of grammar.	Students' language needs.	

Table 8 Extracts of Ella's interview data

Ella's descriptions in IE1 session portrayed her belief that language accuracy is important for the students when using English for communication so as to *"be understood when they speak English"* (Interview, IE1). Ella brought up a particular point that revealed her strong belief in the importance of language accuracy when she spoke about her concern regarding the CE course module which *"was developed based on CLT (communicative language teaching approach)"* (ibid), that *"focuses largely on the fluency skills"* (ibid) and *"not much emphasis given on teaching grammar items"* (ibid). This belief was clearly portrayed in her action in the classroom when she corrected her students' grammatical errors when they tried to respond to her questions in English (Observation, OE1; see Figure 6 for an account of my visit to Ella's class).

During the initial interview session, Ella's responses revealed that there is a link between her belief about meeting her students' language learning needs in terms of accuracy skills and her previous ESL learning experience, when she stated that she was raised by her mother who was *"convent educated by the nuns"* (Interview, IE1) as her *"number 1(one) lecturer"* (ibid). Ella further described that her mother "*she was the one who instilled or rather drilled grammatical accuracy when I was very young so my mum was a huge influence"* (ibid) and thus, *"language accuracy is a huge thing for me"* (ibid).

Ella's belief on the importance of developing students' accuracy skills seemed to have an impact on her perceptions and actions toward technology and its usefulness in her teaching context, which I will discuss in the next section. This connection seems to be consistent with Ertmer's (2005) argument that to understand a lecturer's pedagogical beliefs about using technology is to investigate how technology translate the lecturer's pedagogical beliefs about teaching certain subject in her/his classroom practice.

6.3.1.2 Beliefs about a lecturer's role in in meeting learners' needs.

Ella's responses also revealed her beliefs in her roles in meeting her students' learning needs, which is related to her beliefs about her students' language level proficiency and attitudes and motivation towards learning English. During IE1 session she said, *"my students, some of them seem to have no motivation to learn English at all"* (IE1). This influences her approach/practice in the classroom where she chooses to be *"friendly"* (ibid) and *"I always try to make things look simple or they'll lose their interest to learn"* (ibid). This kind of belief, i.e. meeting students learning needs, is described by Yoshihara (2012) as *"a common role believed to be on top of the list by ESL lecturers elsewhere"* (Yoshihara, 2012, p.4). Ella's beliefs about her students and their learning abilities seem to have influenced her beliefs and decision to not include technology in her teaching as well, as she believes that lack of technology and access to the internet *"will make them (her students) more anxious and become less and less motivated to learn"* (IE1).

6.3.2 Beliefs and use of technology in her teaching context.

Ella's responses and descriptions during the IE1 session revealed her several beliefs regarding usage of technology in her teaching context, as shown below:

- Belief in the usefulness of technology in meeting students' learning needs
- Belief in having pedagogical skills for effective technology utilisation
- Beliefs in students' technological skills to utilise the technology
- Belief in the impacts of institutional level influences in determining usage of technology

Extracts of data from Ella's 1st interview session.

Extract of data	Sub-codes	Codes	Themes
I think it is in general, I mean generally technology is useful…In this context, I can't think of any but I think there are many websites out there that have useful items like the British Council website, they have useful stuff, like Learn English Grammar which is good for my students and I think they can download certain levels for free. What I think of Cidos erm, I think it's like a virtual space where I can upload my lesson's notes and links to useful websites and students can get them before coming to my class.	Technology is generally useful English language learning websites. Cidos as a virtual space for T&L	Functions of technology Functions of technology Functions of technology	Usefulness of technology

I mean I've put some useful links for online dictionaries and grammar websites so, easy job for them. If they log into Cidos they can get the notes, learn the vocabs they do not understand and try to understand the content of the reading passage before coming to my class.	Tools for students to prepare for F2F		
The lecturer should be in control of the technology meaning the lecturer should know what I'm using, why and how am I using it?' not 'I'm using this therefore I am teaching'. Then the use of technology becomes effective and useful. So that's what I think of technology.	Knowledge to use technology effectively.	Lecturer's technological, pedagogical and content knowledge (TPACK)	Knowledge for effective usage
Another thing is I think we should not say that everyone should use technology because it really depends on the contexts like if you if you talk about the use of technology if you're teaching in the most rural of rural areas where there's no electricity it's not possible to use technology. Or even in the town area if the institution lacks of technology tools then I think you can forget about using technology. To use or not to use technology, it really depends on your contexts also, I mean like what subject-content that you	Lack of electricity/resource (in rural area) Lack of technology (in town) Role of practice context(subject-content, group of	Resource availability. Technology availability	Institutional level influences

teach, your group of learners, their learning needs. Like if you just want your students to learn new vocabs, they can just use dictionaries in the classroom. Simple, quick and practical. Maybe learning the real meaning of blended learning, I mean theoretically you know what is it actually, why do we need to adapt it, or how do we do it purposefully. You know rather than keep telling us the same thing that it's a combination of online and classroom learning, but not showing how to do it. Work and modify it and that takes time and you need to work on your Cidos thingy you don't have the time- when you have 16 hours of teaching and other stuff it's just- yeah.	learners, students' learning needs) Lack of proper professional development; theoretical approach of BL Lack of proper professional development; pedagogic approach of BL Time to use technology	Role of practice contexts Professional development Professional development Time	

6.3.2.1 Beliefs and actions on the role of technology in meeting students' learning needs.

Ella's descriptions in IE1 session revealed that there was no rejection about the usage of technology in her teaching context when she stated *"I think it is in general, I mean generally technology is useful"* (Interview, IE1). Ella gave an example of the type of technology that she thought as useful in meeting the particular learning needs of her students whom she described as *"…very shy to speak, having confidence issues, grammar issues, vocabulary issues"* (Interview 1, EI1) when it comes to learning and using English as a second language. Ella stated *"I think there are many websites out there that have useful items like the British Council website, they have useful stuff, like*

Learn English Grammar which is good for my students and I think they can download certain levels for free" (ibid).

At this point, Ella and her colleagues have been given instruction to not to distribute printed course modules to their students anymore, for several reasons which I have discussed in chapter 1: Introduction, namely to encourage usage of technology by both lecturers and students in teaching and learning activities, particularly utilisation of Cidos as the institution's online learning management system (LMS) and to develop technological skills in students. Ella's responses during the interview also revealed her agreement about the usefulness of Cidos in her practice contexts, as she described it as *"a virtual space where I can upload my lesson's notes and links to useful websites and students can get them before coming to my class"* (Interview 1, EI1), Ella believes that this *"basic idea of Cidos"* can actually help students to *"better prepare themselves before attending my class*" (ibid).

6.3.2.2 Beliefs and actions about the role of technology in her teaching approach

During the first interview session (IE1), Ella's explanations revealed the connection between her previous ESL professional development and her beliefs on technology use in her teaching context. She stated that a lecturer needs to have a pedagogical understanding so as to be *"in control of the technology"* (EI1). Ella believes that by having certain skills in using technology and knowing *"what I'm using, why I'm using this and how am I using it properly?"*, and not just, *'I'm using this and therefore I am teaching'* (ibid), usage of technology by lecturers *"becomes effective and useful"* (ibid). What was stated by Ella seemed to be consistent with Mishra and Koehler's suggestion that *"the heart of good teaching with technology are three core components: content, pedagogy, and technology, as well as the relationship between and between them"* (2007). Her beliefs in this matter seem related to the way she has been utilising Cidos, when she stated that "I'm not so sure about the meaning of blended learning, or its implementation whatsoever", (Interview, IE1) since "it wasn't clearly explained in the workshop" (ibid) and

thus, described her utilisation of Cidos as “just to upload units of the CE course modules” (ibid).

6.3.2.3 Beliefs in the impacts of institutional level influences in determining usage of technology

Ella seems to be very practical when it comes to including technology in her practice. Her data revealed her beliefs in availability of technology and access to the internet as important influence on her use of technology in the classroom. During IE1 session, she stated that *“if you talk about the use of technology if you’re teaching in the most rural of rural areas where there’s no electricity”* (Interview 1, IE1), or *“even in the town area if the institution lacks of technology tools then I think you can forget about using technology”* (ibid). Ella’s responses during IE1 session too, portrays her belief about the role of contextual influences in determining a lecturer’s decision on *“to use or not to use technology”* (IE1) that when it comes to using technology in her teaching, she said *“it really depends on your context…what subject-content you teach, your group of learners, their learning needs”* (ibid). Besides, Ella seemed to have a firm stand towards any intention to use technology when lecturers have *“limitations like facilities…and workloads”* (ibid).

During the initial interview session, Ella also revealed her belief about the importance of having a proper professional development in using technology in her teaching context; both *“theoretical understanding”* (IE1), and *“how do we do it appropriately* (pedagogical approach)” (ibid) in ensuring effective usage of technology in meeting her students’ learning needs. This is evident in her descriptions during the interview session, when she stated her preference to learn “*the real meaning of blended learning”* (ibid) rather than being told “*the same thing that it’s a combination of online and classroom learning, but not showing how to do it”* (ibid). Ella’s data also revealed “time constraint” (Interview, EI1) which is due to “16 hours of teaching and other stuff to do” (ibid), as an influence “you need to work on your Cidos thingy you don’t have the time” (ibid).

Part 3 (a): The influence of PD1 on Ella's beliefs and utilisation of technology in her ESL teaching her context.

RQ2: How did professional development programmes influence lecturers' beliefs and actions on the use of technology in their ESL teaching contexts?

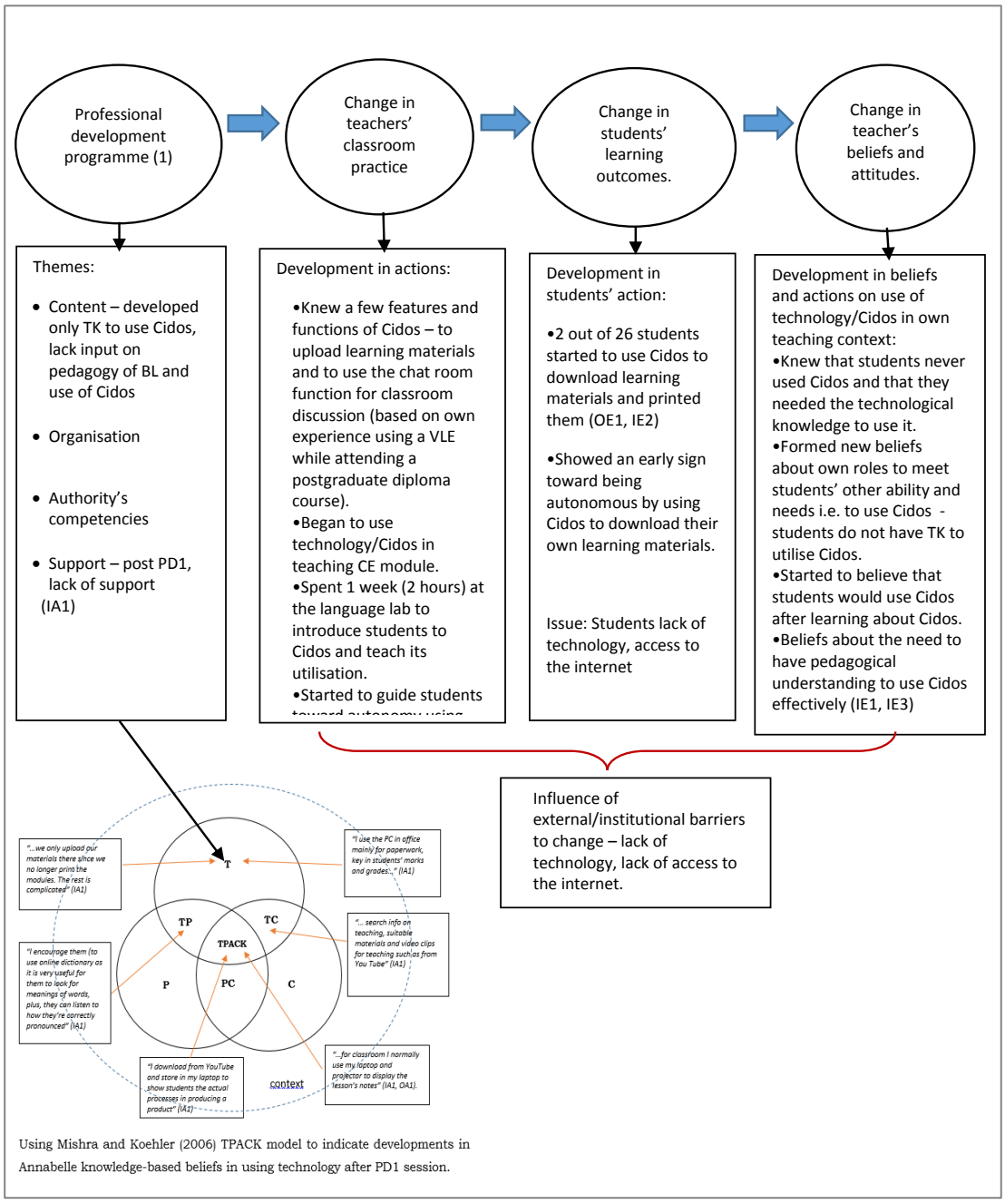


Figure 9 PD1 and changes in Ella's practice and beliefs on technology

Guskey's (1986, 2002) model of teacher change proposes that change in teachers' beliefs does not take place during or after professional development sessions, but happens after change in teachers' classroom practice that has effect on students' learning behaviour and outcome. This model is used as the conceptual framework for this research to investigate how professional development session influenced Ella's pedagogical beliefs and classroom practice toward technology integration in her ESL teaching context. Changes in her beliefs and practice were determined by studying relevant data which were obtained and then interpreted as changes in her own practice that led to changes in her students' practices in learning.

6.4 The "one-off" professional development 1 session (PD1)

In Part 2 of this chapter, Ella's use of technology in her teaching context has been revealed as 'none/nil', because of her belief in the effectiveness of teaching and learning that can be achieved with or without technology. This is also revealed as having a relation to her skill in using Cidos, which was restricted to uploading some lesson notes to be downloaded by her students, despite having attended PD1 about a couple of weeks before the start of the new academic semester.

Data from the initial interview session (IE1), classroom observation (OE1) and the second interview session (IE2) were analysed, revealing central themes about PD1 session as shown below:

- Content (largely on technical info, lack of input on BL pedagogic approach)
- Organisation
- Authority's competencies

6.4.1 Content

Ella's responses about the first professional development session (PD1) during the initial interview session (IE1) revealed that the content of PDI was largely constructed on developing lecturers' technology skills and not on developing their understanding of the

meaning and the pedagogy of teaching and learning which involves the use of Cidos as an online learning platform. During the IE1 session, when she was asked about her understanding of blended learning, Ella stated that "I'm not pretty sure about the actual meaning" (IE1). Recalling on the PD1 session which she attended a couple of months prior to the first interview session, Ella mentioned that the professional development instructor "told us that BL is a combination of online and classroom learning" (ibid) and "not exactly showing or at least explain how the combination can be carried out in our contexts" (ibid). Ella's revelation that even though "people here think of it as a new thing" but it is "not totally new to me" (ibid), suggests that Ella was trying to figure out the meaning by trying to connect to her previous ESL professional development experience.

6.4.2 Organisation

Ella's data revealed her views about the organisation of PD1, particularly about the contents of the professional development which, in her opinion, "(have) too many things to be covered in several hours" (Interview 1, IE1), and the way they were delivered during the professional development by the instructor as, "very fast" (ibid). This raised her concern about others, particularly the non-IT-savvy lecturers and their ability to understand the contents being delivered when she said, "it's fine with me, but I'm not sure if our seniors like Annabelle and Sarah could follow" (ibid).

This seemed to be problematic to the lecturers, even to Ella who believes quite highly about her ability in using technology when she said "on a scale of 1 to 10, I think my level of confidence with technology is 7, at the most 8" (ibid). This means that it was quite a struggle for her catch up with the speed of the delivery of the content of the course. As a result, she was unable to gain the specific skills that she needed in order to understand the features and operation of Cidos. This had also led to an unfinished task when Ella said: "…many of us ended up having incomplete platform" (ibid) where she and other lecturers failed to transform her course module into a blended version when the session ended. This indicates the constraints of one-off professional development and the need for continuation of a professional development programme that will provide more time for an understanding of the professional development content and practice to take place.

6.4.3 Authority's competencies

Ella's descriptions during IE1 revealed her dissatisfaction toward the instructor as the authority for not being able to explain to her and other course participants about the actual meaning of blended learning. Ella said that the instructor did not make it clear about the meaning and pedagogical practices of blended learning during PD1 as he "kept telling us the same thing that it's a combination of online and classroom learning, but, I mean, how do you use this stuff in Communicative English class, tell us" (IE1). According to Chapelle (2003), this happened because the instructor does not have sufficient knowledge about the content of professional development. In this case, the trainer is a senior lecturer from the department of civil engineering who teaches Architectural courses, and who lacks, or most probably does not have knowledge about ESL teaching methodologies.

Ella's confusion which seemed to have led to the feeling of dissatisfaction about the professional development instructor's competency has created some 'distrust' toward the new knowledge which was introduced to her.
Her doubts about this confirm with her existing beliefs about being practical and avoiding unnecessary complexities (i.e. not using technology in the absence of technological tools and facilities - OE1) and this was clearly stated by her during IE1 when she said: "I think basic technology I can use, but if you talk about more complicated things, I'm not that familiar and so I won't use it". According to Rokeach' scheme, the newly learnt knowledge is a type D belief; positioned as a peripheral belief in Ella's belief system. Its acceptance depends on Ella's belief in the instructor as the authority in PD1, as explained by Rokeach "believing in the credibility of a particular authority implies an acceptance of other beliefs perceived to emanate from such authority" (p.10).

6.4.4 Support

During IE1, Ella's responses revealed a lack of supports, in terms of technical and collegial after she attended PD1, which has affected her progress in working on her Cidos platform. She mentioned "as far as I remember, that's the only formal professional

development we attended on Cidos, no further input after that" (Interview 1, IE1). As a result, "I think many of us ended up having an incomplete platform…because when the new semester starts, everyone is busy – teaching, marking, including our e-learning coordinator" (ibid) and this explains why she did not use Cidos when I visited her classroom (OE1). This suggests the drawbacks of one-off professional development and the need for follow up programmes to be carried out for they will provide more time for the lecturers to understand the purpose of the professional development (Fullan, 2007), the content of the professional development and later to allow the implementation to take place.

Extract	**Code**	**Themes**
"…told us that BL is a combination of online and classroom learning … not exactly showing or at least explain how the combination can be carried out in our contexts".	Theoretical understanding (lack of BL & Cidos pedagogy)	Content
"…he (Mr. J) was very fast. it's fine with me but I'm not sure if our seniors like Annabelle and Sarah could follow	Instructor's skill (participants' learning needs).	Authority's competencies
	Pacing of professional development	Organisation
"..kept telling us the same thing that it's a combination of online and classroom learning, but, I mean, how do	(too fast for less IT-savvy lecturers)	Authority's competencies

you use this stuff in Communicative English class, tell us"	Instructor's knowledge (content of the session, lack of pedagogical knowledge)	
"As far as I remember, that's the only formal professional development we attended on Cidos, no further input after that (on Cidos)"	Lack of technological support	Support
"I think many of us ended up having incomplete platform…because when the new semester starts, everyone is busy – teaching, marking, including our e-learning coordinator".	Lack of technological support Lack of collegial support	Support Support

6.4.5 Effects of PD1 on Ella's classroom practice

"The first step towards change is awareness;
The second step is acceptance."
– Nathaniel Branden (Canadian-American Psychologist)

Ella's data revealed that there was no change in her classroom practice regarding the use of technology (Cidos) after attending PD1 (Observation 1, OE1), where she excluded Cidos in her ESL teaching context. This seems to support Guskey's proposition that change in lecturers' beliefs about a new instruction does not take place during or right

after professional development (1986, 2002). Ella seems to hold strongly to her beliefs about being practical in integrating technology in her teaching content; - without sufficient resources of technology, implementation is impossible (OE1). In her own words, Ella said, "*there is no point. I do not have a computer in my classroom. How can I use technology in my class?*" (IE1). Ella too, revealed her belief that without sufficient understanding about a particular technology and the pedagogical knowledge on using the technology in the context of teaching and learning of ESL, implementation will be ineffective (IE1). This was clearly articulated when she mentioned "*first, I want to understand what it is actually about, then secondly, I want to use it effectively so it will benefit my students …I'm trying to avoid the practice 'just-because- I'm- using- technology- so-I–am-teaching'"* (ibid).

6.4.5.1 Effects of Ella's classroom practice on students' learning conducts

Ella's beliefs about technology which she articulated during the initial interview session (IE1) and supported by her classroom practice i.e. not using technology (Observation 1, OE1), seemed to have a great influence on her students where they too, did not utilise Cidos (OE1). To Ella, this phenomenon, occurred due to the absence of technology in the classroom and lack of access to the internet. However, she was aware about the new instruction for lecturers and students to utilise Cidos in their teaching and learning context and thus, started reminding her students to log in to Cidos to download their learning materials). During the second interview session (Interview 2, IE2) which was conducted after the observation, Ella stated, "…*based on the emphasis put on us at the moment, where we are instructed to upload the softcopy of our learning units onto Cidos as a way to make sure our students have them because we no longer give them the printed copies, I do remind my students to get it from Cidos".* Her instructions seemed to have not fallen onto deaf ears as during OE1, I could see study notes on the desks of two students, indicating that they took the initiative to log into Ella's Cidos platform and download the learning units which she uploaded during PD1. This also suggests an early sign of shift in students' behaviour in learning ESL, from not utilising Cidos at all to starting to use Cidos to get their lesson notes.

6.4.5.2 Effects of students' learning conducts on Ella's beliefs and use of technology

Ella's responses during the second interview session (IE2) revealed that she was aware that her partially completed Cidos platform was visited by two of her students who wanted to download their lesson notes. During her class time, Ella asked her students "*where did you get your notes*?" (Observation 1, OE1). She expected that the students would say the common word "*photostated (meaning: photocopied)*" (IE2), indicating that they got the notes from the class monitor who usually took the responsibility to photocopy all the notes given by the lecturer and then distributed them to his classmates. Instead, Ella looked amazed when one of the students said "*from Cidos, Miss*" (OE1). As reported previously, Ella's data showed that after attending PD1, her beliefs and practice regarding technology integration in her teaching context remained the same. She mentioned about the unavailability of technology facilities as her justification, "*As I said before, there is no computer in my classroom. Internet access is also limited and unreliable. I just cannot use it*" (IE2). However, after discovering that two of her students actually did visit and log in to her Cidos platform to download some notes that she uploaded onto Cidos during PD1 session, Ella's responses revealed that she was rather shocked yet somehow pleased when she said, "*I was quite surprised, you know. Didn't expect that they actually visit my platform (Cidos)*" (IE2). Ella's statement then revealed her awareness of her new role, that she needs to encourage other students to use the technology, which could be interpreted as a shift in her beliefs about her students' needs which are not only restricted to language skills (IE1). Ella said "*maybe I need to keep on telling them to do it, and before that, I need to upgrade my Cidos platform, like putting more learning stuff in it*" (IE2).

6.4.6 Barriers for changes

Ella's data shows that her beliefs and practice regarding technology integration in her teaching context remained the same after the first professional development session (PD1). This however, was not influenced solely by the content, organisation, instructor's

competencies and continuous support of the professional development session. It is revealed from the first interview (IE1) and observation (OE1) sessions that there were other influencers i.e. unavailability or lack of technology and access to the internet, which had played a significant role in influencing her belief and action in using technology in her teaching context. Ella's responses during IE1 clearly showed her stand on lecturers' technology integration when technology was not available in their classrooms, she said *"if you have to carry the projector or laptop from one classroom to another, that's just too much hassle* "(Interview 1, IE1). A visit to her classroom, plus Ella's responses during the second interview session (IE2) confirmed her descriptions about lack of technology in her teaching context. Ella restated her point "*as I said before, there is no computer in my classroom. Internet access is also limited and unreliable. I just cannot use it*" (IE2). Ella also suggested follow-up sessions to be conducted after PD1, so that she has the opportunity to gain further knowledge and skills to integrate Cidos effectively in her ESL teaching context.

Extracts	Codes	Themes
Two students took the initiative to log into Ella's Cidos platform and downloaded the learning units which she uploaded during PD1 (OE1). Maybe I need to keep on telling them to do it (log into Cidos, download learning materials), and ask if they have problem about it (IE2).	Using technology (starting to use Cidos) Developing autonomy (guiding students toward autonomy)	Change (development towards change in students' learning practices)
When I saw them holding the notes, I thought they would say 'photostated (photocopied) Miss', as	Belief about learners (from less autonomous to more autonomous)	

normally it's like that, they got their notes from the class monitor (IE2) And before that, I need to upgrade my Cidos platform, like putting more learning stuff in it (IE2).	Beliefs about role (to meet learners' new needs)	Change (in lecturers' beliefs and attitudes)
If you have to carry the projector or laptop from one classrooms to another, that's just too much hassle (IE1)	Lack of technology	
As I said before, there is no computer in my classroom. Internet access is also limited and unreliable. I just cannot use it (IE2)	Lack of technology	Barriers (for further developments in change).
To access Cidos, you need the internet. You see, poly's wi-fi only works in the staffroom. Outside, the signal's either too weak or not available at all (IE1)	Lack of access to the internet	

Part 3(b): The influence of PD2 on Ella's beliefs and utilisation of technology in her ESL teaching context.

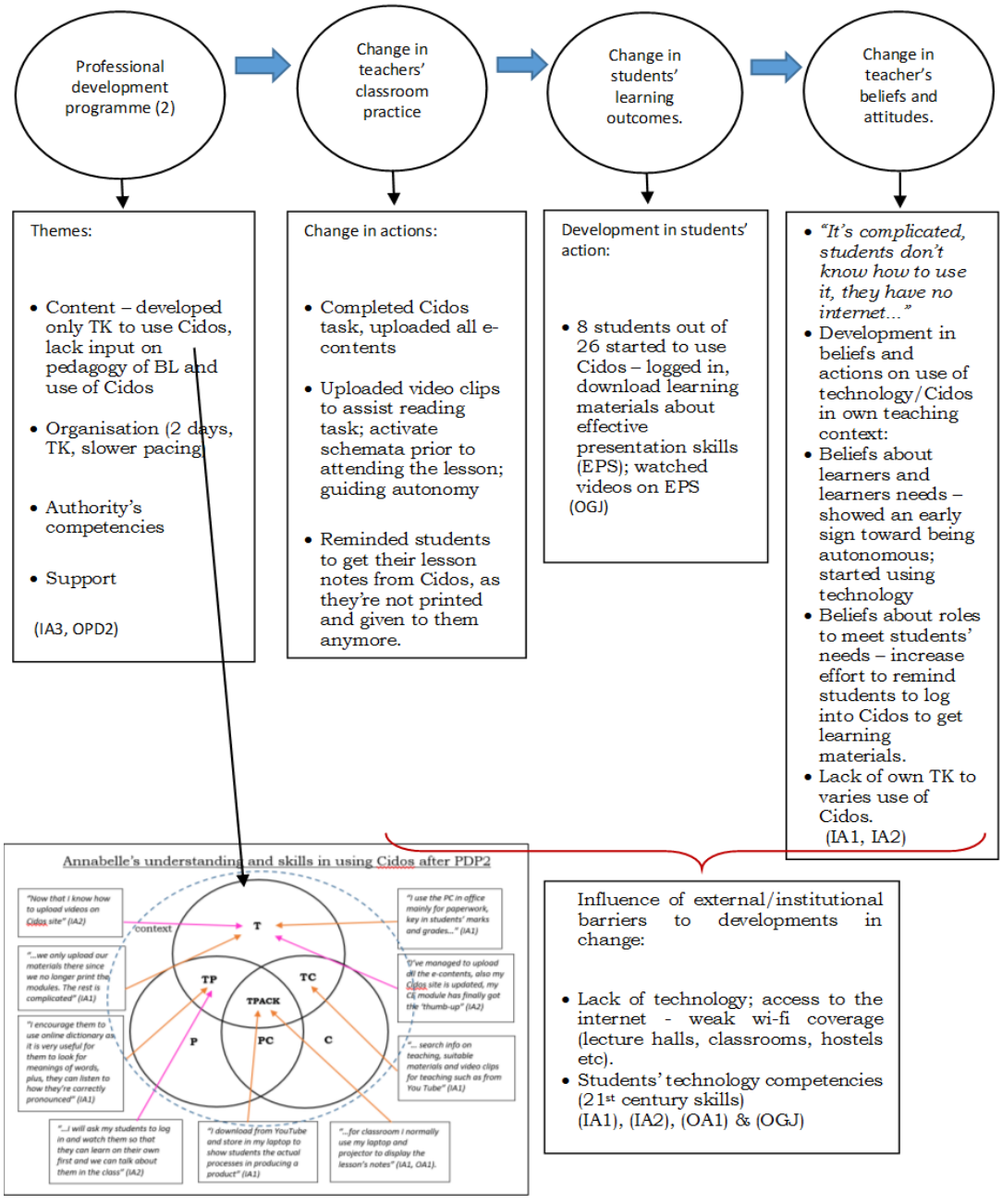


Figure 10 PD2 and changes in Ella's practice and beliefs on technology

6.5. The “ongoing” professional development 2 session (PD2)

The overall percentage of ESL lecturers who used Cidos was still below 60% (this data was obtained from the English Language Unit e-learning committee, who received the monthly report of ESL lecturers’ usage of Cidos from the institution’s ICT Unit) about 2 months after professional development 1 (PD1) was conducted. Based on this report, the English Language Unit e-learning coordinator decided to conduct a follow-up programme - an in-house Cidos and blended learning workshop to increase the percentage (the target set by Department of Polytechnic Education (DPE) is 60% for every Unit in a department), which I had the opportunity to observe the session. An account of my visit to Cidos/Blended Learning Workshop for ESL lecturers is presented in Appendix G.

In the earlier section of Part 3, Ella’s usage of technology has been identified as ‘nil’ due to her beliefs and actions about the practicality of using technology when it is unavailable. Data from the initial interview session (IE1), classroom observation (OE1) and the third interview session (IE3) were analysed, revealing central themes about PD1 session as shown below:

- Content
- Organisation
- Authority’s competencies
- Support

6.5.1 Content

During PD2 observation session, it was apparent to me that throughout the session, the content of the in-house workshop was largely on technical – the features, functions and operations of Cidos as Learning Management System (LMS) for the Communicative English (CE) blended learning module, and not theoretical and pedagogical – the meaning and the implementation of a blended CE course module in the classroom (Observation PD2, OPD2). During the third interview session (IE3) which took place after

PD2, Ella's initial discussion appeared to be focused about the similarities of the contents of PD1 and PD2, where the content of PD1 was "mostly the technical stuff such as how to upload this and that, how to use Scorm to make interactive activity using PPT etc." (IE3) and "not much about how to I mean how can we actually carry out this blended learning approach in our teaching" (ibid), apart from "the same thing they keep telling us about the mixture of online and classroom session" (ibid). The content taught during PD2 seemed to not have a big impact on Ella who appeared to have a firm opinion about her technology abilities when she stated "most of the things that she (the instructor) taught us, I think I can learn on my own" (ibid) as "everything is there in the Cidos manual" (ibid).

Ella's level of confidence about her technology ability could probably be linked to the exposures and education she received about the operations of different kinds of technology during her previous pre-service and in-service professional developments (discussed in detail in this chapter under the subheading "Ella's professional development in using technology") that "have to a certain level, helped me to be more IT-savvy" (IE1).

6.5.2 Organisation

In terms of organisation, Ella's responses during the third interview session (IE3) revealed that PD2 was organised better than PD1, particularly regarding the pacing of content delivery. She commented, "This professional development was conducted much slower (than PD1)." This seems to have a good impact on the course participants, including Ella, as she said: "I think it is good not only for me, but for the slow learners to catch-up" (IE3), allowing her to complete the construction of her own Cidos platform for her Communicative English module. Even though she had not got the 'thumb-up' sign for her platform (an icon which is put next to a lecturer's name in Cidos indicating the course module has achieved active online learning status), Ella was positive about this when she said: "maybe my students will be interested to frequently log into my Cidos platform when I put a lot of stuff that will help them learn" (IE3).

6.5.3 Authority's competencies

Regarding course authority, Ella's data during the initial interview session (IE1) revealed her feeling, which could be interpreted as 'demotivated' about the way the course content was delivered by the PD1 course instructor. After attending PD2, Ella's description about how the course was conducted showed that she was content and motivated with it when she said: "she (the instructor) explained the operation of Cidos one by one" (Interview 3, IE3). Her responses also suggest that she and other participants were given ample time to put theory into practice when she mentioned "and then (she) let us try until we could do it before she went to another point" (ibid).

Ella's interest and motivation in PD2 created some 'trust' toward the newly learnt knowledge, reshaping her existing beliefs that utilisation of technology such as Cidos are "unnecessary skill" (Interview 1, IA1). The newly learnt knowledge, according to Rokeach' scheme, is a type D belief; positioned as a peripheral belief in Ella's belief system, its acceptance depends on Ella's belief in the instructor as the authority in PD1, as explained by Rokeach "believing in the credibility of a particular authority implies an acceptance of other beliefs perceived to emanate from such authority" (p.10). This type D beliefs, according to Rokeach, since not core beliefs, are less resistant to change.

6.5.4 Support

It appeared that during the second professional development session (PD2), lecturers had the time to learn and discover more about Cidos features and functions and get themselves familiarised with the technology, not only from the instructor but from each other.

"During this practical stage (20 minutes), the senior lecturers who have been waiting for quite a while are seen taking their chairs to sit next to their junior colleagues to learn from them, while some are heard calling their friends to come to their places to help them" (Observation PD2, OPD2).

During PD2, Ella, who sat near Daisy, like the other lecturers/participants, was seen giving her full attention to the instructor's introduction about the content of the course at the beginning of the workshop (Observation PD2, OPD2). She was then seen working on her Cidos site and from time to time, talking to Salwa, a senior colleague who sat in front of her who seemed to have issues with her Cidos site. The senior colleague later took her chair and sat next to Ella. She held her Cidos manual, read it and looked at Ella's computer screen. Ella was seen talking to her and pointing several times at her screen, indicating that she was showing her senior colleague what and how to go about the technology (ibid). This was later confirmed by Ella during the third interview session (IE3) when she stated: "she (Salwa) was still blurred about which button to click to upload her stuff and when she clicked the wrong ones she couldn't get back to the previous page and she panicked".

During IE3, Ella recalled her personal achievements in PD2 is not only limited to her work that she could complete her tasks and stated that "I finally had the time and space to actually sit down and do and complete my work, I mean my tasks" (ibid). Besides, she seemed happy and content when she could help her senior colleague achieved her target, Ella said "I'm glad that I was able to help her (Salwa), now that her site is updated and also her module is now a blended module" (ibid)

Extract	**Code**	**Themes**
Mostly the technical stuff such as how to upload this and that, how to use Scorm to make interactive activity using PPT etc. (and) not much about how to I mean how can we actually carry out this blended learning approach in our teaching (IE3) The same thing they keep telling us about the mixture of online and classroom session" (IE3)	Technological knowledge (TK). Theoretical understanding(lack of BL & Cidos pedagogy) (effect)	Content Content
This professional development was conducted much slower (than PD1). I mean the pacing. I think it is good for the slow learners to catch-up After demonstrating the steps to upload the materials, move from one desk to another to check on the participants' progress (OPD2) Maybe my students will be interested to frequently log into my Cidos platform when I put a lot of stuff that will help them learn" (IE3).	Pacing Pacing Pacing (effect)	Organisation Organisation Organisation

…she (the instructor) explained the operation of Cidos one by one (IE2) …and then (she) let us try until we could do it, before she went to another point (IE2).	Instructor's delivery skills Instructor's knowledge (about the participants)	Authority's competencies Authority's competencies
Ella was seen talking to her and pointing several times at her screen, indicating that she was showing her senior colleague what and how to go about the technology (OPD2). I'm glad that I was able to help her (Salwa), now that her site is updated and also her module is now a blended module" (ibid) (IE2)	Technical support (instant) Collegial support (instant)	Support

6.5.5 Effects of PD2 on Ella's classroom practice

"Change does not necessarily mean doing something differently; it can mean a change in awareness…Change can be an affirmation of current practice… Change is not necessarily immediate or complete. Indeed some changes occur over time"

(Freeman, 1986, pp.29-30).

6.5.5.1 Change in Ella's actions

Ella's data shows changes in her actions regarding utilisation of technology in her ESL teaching context, during and after the second professional development (PD2) session. During PD2, she managed to complete her Cidos platform. She said, "yes, finally, I did it, my Cidos platform is finally ready" (Interview 3, IE3), and this achievement can be linked

to a better organisation of PD2, which I have discussed in the previous section. Ella's descriptions during reflective Online Group Discussion (OGD) which spanned for almost three weeks, revealed her continuous effort to improve her Cidos platform from time to time as she realised that operating the technology "is not so difficult once you get the hang of it" (ibid)). She started to upload more materials onto her Cidos platform such as "links to ELT websites, like the BBC English and TalkEnglish" (ibid) and more video clips from YouTube which are "related to the topic that they (her students) are currently learning, especially about good social communication skills" (ibid). She also mentioned that she constantly reminded her students to use Cidos to "download their study notes which I have uploaded" (ibid).

Earlier, Ella's responses during the first interview session (IE1) session indicated her early intention to utilise Cidos as an online learning platform "to upload units of my CE course module" (IE1). During the third interview session (IE3), which was conducted just after the end of PD2, Ella stated the possibility of using Cidos for the same purpose, "if you ask me how I am going to use it after this my answer is the same, to upload the rest of the module". Ella's decision could be linked to her pedagogical beliefs about using technology in her practice contexts, which have been influenced strongly by the "limitations" (Interview 1, IE1), her own word which she used to describe the absence of technology devices such as computers during the initial interview sessions (IE1 and IE2). Ella said, "some (of her students) do not have their own computers, or laptop, so it's impossible to use other features in Cidos no matter how useful they are, like discussion features and stuff" (IE2). Another limitation that had hindered utilisation of Cidos is access to the internet and poor wi-fi connection in the campus area. In her own words, Ella described that "the majority of our students don't have access to the internet, even those staying at the hostels, the wi-fi connection is so poor" (IE2).

6.5.5.2 Change in students' learning conducts

The change in Ella's teaching practice, where she started utilising Cidos in her ESL teaching context, after attending PD1 and PD2, seems to have a minimal effect on her students' use of Cidos. Ella's descriptions in the reflective Online Group Discussion

(OGD) showed an increment in the number of students who went to Department of Mathematics, Science and Computer (JMSK) to get their user names and set up their passwords so that they can log in to Ella's Cidos platform. In her own words, Ella said: "I checked with JMSK staff, around 8 students have been registered as Cidos users" (OGD). However, although they registered, not all of them logged into Ella's Cidos platform, as mentioned by Ella in ODG session, "only 2 students, they're the same students that logged in and downloaded Unit 2 study notes". As for the rest of the students who did not utilise Cidos as instructed, Ella's descriptions revealed that her students' either lack of autonomy when she said "I guess the rest (of the students) just waited for them (the 2 students who logged in to Cidos) to get the study notes and then get them photocopied" (OGD), or, lack of technology when she stated "they don't have printers and printing is costly to them" (ibid).

6.5.5.3 Change in Ella's pedagogical beliefs

Ella's particular belief about the type of students she was currently teaching, which was described earlier in section 1 of this thesis as "less autonomous" (IE1), allowed her to understand what was going on when the rest of the students still had not utilised the technology. Ella said, "I guess the rest just waited for them (the 2 students) to get the study notes and then get them photocopied" (ibid). Apart from that, this situation could also be linked to what Ella described as "limitation" (IE1), where her data which was generated from IE1 and OE1 sessions revealed lack of technology and access to the internet in her ESL teaching environment. However, despite this challenge that Ella felt as "frustrating, really frustrating" (OGD), her awareness in developing students' technology skills and trying to encourage her students to use Cidos remained intact. During focus group session which was conducted at the end of my fieldwork, Ella suggested a possible way that she could probably do to make her students use Cidos, which is "to give reward to those who use it actively, you know small rewards like notepads, pens and stuff like that" (Focus Group, FG).

6.5.6 Barriers for changes

Ella's data revealed that despite shifts in her beliefs and actions regarding the utilisation of Cidos in her ESL teaching context as the results of better professional development and students' use of Cidos, there were a number of obstacles that would hinder this progress. Ella's words and actions during IE1, OE1, OE2, OGD and FG showed that she was aware of the causes of this phenomenon, namely lack of technology and access to the internet which to an extent affected students' competencies in using Cidos. During a focus group session which I conducted at the end of my fieldwork, Ella stated: "I've given my students the manual of Cidos, but then again as there are limitations, they can't put the knowledge into practice" (Focus Group, FG). Earlier, when I asked her opinion about technology integration in her classroom, Ella said: "it depends, actually on what you teach and the availability of ICT tools in the classrooms" (Interview 1, IE1). She was also against the practice of providing her own technology tools and thus, chose to teach with whatever was available in the classroom. Ella mentioned, "if you have to carry the projector and laptop from one classroom to another, that's just too much hassle "(ibid). Ella's view about this remained the same when she said "there's no point upgrading our knowledge, or, the students' knowledge about Cidos if the tools for us to use are not available" (FG). Regarding this issue, Ella suggested that "the admin needs to look at this matter seriously and make improvement" (ibid), for "if not, we're not going anywhere further than this" (ibid).

6.6 The potentials of online group discussion (OGD) as “non-formal” professional development session.

Ella’s data also revealed the advantages of participating in continuous professional development sessions, especially the non-formal types which provide opportunities for her to give and to get collegial support toward further development in her technological and pedagogical skills in utilising technology in her teaching context. This was evident during the in-house professional development session (PD2) where Ella, *“after getting assistance from the instructor, acted like a mentor to her colleagues (such as Annabelle)*

who needed help with their Cidos platform" (Professional development Observation, OA2 and Researcher's Journal, RJ). Her role as a mentor was also evident in the online group discussion (OGD) session, for example, she wrote comforting words whenever Annabelle wrote about her frustrations about her attempts to implement Cidos and her students' responses toward her instructions, either synchronously or asynchronously (RJ). Ella's responses in OGD session (marked as OGD in the table below) showed how the session connected the participants after the first and second professional development sessions ended.

Extracts	**Codes**	**Themes**
yes, finally, I did it, my Cidos platform is finally ready (IE3)	Progress in technical skill	Change (development of change in classroom practice)
If you ask me how I am going to use it after this my answer is the same, to upload the rest of the module" (IE3)	Intention toward action	
More video clips from YouTube which are related to the topic that they (her students) currently learning, especially about good social communication skills (OGD)	Implementation of intended action	
…students are reminded to download their study notes which I have uploaded (onto the Cidos platform). (OGD)	Developing students' autonomy.	

I checked with JMSK staff, around 8 students have been registered as Cidos users (OGD) Only 2 students, the same students that logged in and download Unit 2 of the study notes (OGD) I guess the rest (of the students) just waited for them (the 2 students who logged in to Cidos) to get the study notes and then get them photocopied (OGD)	Students' actions (more starting to use technology) Consistent development in students' autonomy (minority) Lack of development in students' autonomy (majority)	Change (development towards change in students' practice in learning)
It is frustrating, really frustrating, especially when you know that they need this skill for work (OGD) To give reward to those who use it actively, you know small rewards like notepads, pens and stuff like that (Focus Group, FG).	Learners and learners' need (change in development) Roles to meet learners' new needs (change in development)	Change (in lecturers' beliefs and attitudes)
they don't have printers and printing is costly to them (OGD)	Lack of technology	

I have given my students the manual of Cidos, but then again as there are limitations, they can't put the knowledge into practice (FG) there's no point upgrading our knowledge, or, the students' knowledge about Cidos if the tools for us to use are not available (FG)	Students' technical skills. Lack of technology, lack of access to the internet Lack of technology, lack of access to the internet	Barriers (for further developments in change).

6.7 Conclusion

Ella's data revealed that her pedagogical beliefs towards the teaching and learning of ESL are related to early exposures to particular ESL learning and teaching technique, started by her mother and then enforced by her ESL lecturers and further lecturer professional development experiences (Richards et al. 2001; Pajares, 1992, Nespor, 1987; Ertmer, 2006). According to Rokeach's (1968) beliefs, attitudes and values (BAV) scheme, Ella's beliefs about her mother and her ESL lecturers are the authority beliefs, the Type C beliefs that are "important and generally resistant to change" (p.10). Her beliefs on her lecturers' teaching are explained as Type D beliefs, also known as peripheral beliefs, and are less resistant to change. This suggests the possibility of Ella's pedagogical beliefs to be shaped or re-shaped by other authorities such as pre-service or in-service professional development instructors, or, by other influencers. For example, Ella's beliefs about the effectiveness of particular teaching approach that have made her a successful language learner was to an extent, re-shaped by elements such as effective pre and in-service professional development programmes (Guskey 1986, 2002; Joyce and Showers; 2002; Ertmer 2005, 2010; Chapelle 2006; Hubbard & Levy 2006).

Guskey's model of teacher change (1986, 2002) was used as a framework to identify, trace and interpret changes in Ella's classroom practice and pedagogical beliefs after attending two professional development sessions, changes in terms of Ella's actions and beliefs in ESL teaching and the use of technology in her ESL teaching context were evident, as a result of some development in her technical and pedagogical skills, supporting Rokeach's scheme that type D beliefs are less resistant to change. However, Ella's data also revealed that further development in changes could be inhibited by barriers such as lack of technology and access to the internet (Ertmer, 1999, 2005; Lam 2000, Ertmer & Ottenbreit Leftwich 2010), students' technological competencies (Fulton,1992) and ineffective professional development programmes (Guskey 1986, 2002; Joyce and Showers; 2002; Ertmer 2005, 2010; Chapelle 2006; Hubbard & Levy, 2006).

Chapter 7: Cross-case comparison of developments in the pedagogical beliefs and technology utilisation of the two ESL lecturers, discussion and suggestions.

7.1 Combining findings of the individual case studies

When the stories of the individual cases have been reported, Yin (2009, pp. 130-163) suggests that the journey should end with cross-case synthesis as a means of "aggregating findings" (p. 157). This, he argues, shows the reader how the research questions have been addressed, and findings supported by data (ibid). He also recommends reviewing individual cases and presenting a summary of key features in a diagrammatic format, which has been done for each case, shaped by analysis of the key categories and themes to emerge from the data sources, particularly the dialogue. This is perhaps particularly important in a research story where I have opted to present details of each case in a separate chapter leading up to a synthesised comparison.

The chapter has been structured in such a way so as to restate the research questions, and then present a diagrammatic overview of developments in each of the two cases, before summarising the main developments in the cases as a whole, as a foundation to investigating these developments in more detail. Within this, there will be a discussion on how these developments relate to the theoretical framework – starting from the professional development sessions and how they link to change in pedagogical beliefs and attitude through a change in classroom practice and change in students' learning conducts and as well as teaching ESL as a whole.

At the end of the chapter, the conclusion will feed into the final part of the thesis, which is the contributions section. In order to again stress the importance of knowledge, actions, and professional practice to the study, it is essential to restate the research questions, voiced in the following manner at the beginning.

Main research questions:

i. *What are ESL lecturers' pedagogical beliefs and utilisation of technology in their contexts?*
ii. *How did professional development influence ESL lecturers' beliefs and utilisation of technology in their teaching contexts?*

7.2 Overview of the individual cases

7.2.1 Developments in Annabelle's utilisation of technology

At the start of this study, Annabelle's pedagogical beliefs about teaching ESL in her context are revealed as similar to many other ESL lecturers' main beliefs, which are strongly linked to students' learning needs (Yoshihara, 2012). This kind of pedagogical belief affects her role and teaching approach, which includes her particular use of technology (Andrew, 2007; Hermans et al. 2008; Ertmer, 2012). Her sense of ESL, as a subject appeared to have been shaped by her past ESL learning experience and pedagogical knowledge.

Annabelle's initial focuses in teaching ESL seemed to revolve around achieving two things, i.e. the learning outcomes of the lesson by getting her students to understand the subject content which she delivers in order for them to perform the learning tasks, and teaching them grammar to improve their accuracy in speaking. At this point, in the teaching and learning of the ESL course, technological tools like laptop and LCD projector were used by Annabelle mainly to improve the delivery of the subject content. Regarding e-learning, although she attended the first professional development session (PD1) which was intended to change her practice and even though she had started to upload some learning notes onto her Cidos platform, she had not instructed her students to download the notes from Cidos, and these were revealed as related to several reasons such as her beliefs about her ability and confidence in utilising Cidos and her beliefs about her students' learning needs which did not include the use of technology. At this point, this

supports Guskey's suggestion that change in a lecturer's pedagogical belief does not always occur while or after attending professional development, but after the change in classroom practice that leads to change in students' learning conducts and later, outcomes.

During the second interview session (IA2) which was conducted after my visit to her classroom (OA1), Annabelle's initial focus and attention seemed to have changed to guiding her students toward autonomy by using technology (Cidos) to download their study notes such as some reading texts about effective presentation skills which they were required to read prior coming to the class. This shift happened when Annabelle noticed positive reactions by a few students regarding her instruction on the use of Cidos. This phenomenon which started from a change she made by uploading some learning materials online seemed to have stirred her beliefs about her students' and their new learning needs, which now includes the utilisation of technology.

Despite lack of pedagogical understanding about a teaching technique which combines both classroom and online environments called blended learning (as this particular content was not included in PD1 and later, PD2) Annabelle's use of Cidos as the online learning management system (LMS) platform in her practice increased, as a result of her technological knowledge being further developed during PD2. She began to upload not only the seven e-contents which are the compulsory learning materials but other e-learning items too, such as video clips and links to an online dictionary which she believes could aid her students' understanding in learning certain topics on their own. This was particularly revealed during her third interview (IA3) session, which was conducted after professional development session two (PD2).

However, Annabelle's progress in utilising Cidos slowed down after the IA3 session. Although the number of students who began to use Cidos increased a little bit, the majority of them still did not utilise the LMS for several reasons, such as lack of technology and access to the internet and lack of knowledge of how to use the LMS which disrupted Annabelle's teaching schedule. Annabelle also started to show her awareness that

knowledge in technology alone (which she began to feel like more than just uploading and downloading materials on her e-learning platform) would not allow her to integrate Cidos into her teaching effectively - a sign of the absence of integration of technology in teaching pedagogy in her professional development during PD1 and PD2. At this point, her initial beliefs about ESL teaching, which seemed to have been stirred by changes in her students' learning conduct earlier, seemed to about to return to its initial state. This was clearly mentioned during online group discussion (OGD) and later, the focus group (FG) session when Annabelle voiced out her concerns of not being able to achieve the objectives of her lessons since her students do not have access to the materials she tried to deliver using Cidos. These experiences which seem to disagree with her beliefs about her students' new learning needs in using technology, reshaped her beliefs about the usefulness and practicality of using technology in her ESL teaching contexts.

Developments in Annabelle's practice and pedagogical beliefs on the use of technology after attending two professional development sessions are summarised as follows in a diagrammatic representation provided as Table 9 below.

Professional Development 1 (PD1)	**Change in lecturer's classroom practice** (Development of change in actions)	**Change in students' learning conducts** (Development of change in actions)	**Change in beliefs/attitudes** (Developments of change in beliefs)
• Content – focused only TK to use Cidos, lack input on pedagogy of BL and use of Cidos • Organisation – a one-off course, short in time, speedy teaching • Authority's (instructor's) competencies - has knowledge about Cidos but not about ESL pedagogy	• Continued using technology (laptop and LCD projector to display reading materials in the classroom). • Knew one main feature and function of Cidos which was learnt in PD1 – to upload learning materials for students. • Began to use technology/Cidos to	• 4 out of 26 students started to use Cidos to download learning materials and printed them out (OA1, IA2). • Showed an early sign toward being autonomous by using Cidos to download their own learning materials.	• Saw students utilised Cidos, received new information about learners' ability and their needs in the use of technology – contradicts with previous beliefs about students being non-autonomous and did not use technology. • Formed new beliefs about own roles to meet students' other ability and needs (not

• Support – post PD1; lack of support (technology, morale etc.) (IA1)	upload reading materials for students. • Began to instruct students to use technology/Cidos to download reading materials. • Started to guide students toward autonomy using technology/Cidos to get their learning materials. • Hadn't completed Cidos task – only uploaded some notes onto Cidos, ESL module still not acknowledged as a blended module. (IA1, OA1, IA2)		just the needs to understand subject content, or mastery of grammar) – causing increase in effort to remind students to log into Cidos to get learning materials. • Began to realize about own lack of TK and pedagogical understanding to diversify use of Cidos (IA1, IA3)
Professional Development 2 (PD2)	**Change in lecturer's classroom practice** (Development of change in actions)	**Change in students' learning conducts** (Development of change in actions)	**Change in beliefs/attitudes** (Development of change in beliefs)
• Content – developed only TK to use Cidos, lack input on pedagogy of BL and use of Cidos • Organisation (2 days, TK, slower pacing) • Authority's (instructors) competencies – has knowledge about Cidos and ESL but not blended learning pedagogy. • Support – on the spot technical and moral support	• Completed Cidos task, uploaded all e-contents. • Continued using laptop and LCD projector to display reading materials in the classroom. • Uploaded more than just reading materials, but video clips too to assist reading task; • Continued guiding students towards autonomy, by instructing them to watch the video clip and read the text on	• 8 students out of 26 started to use Cidos – logged in, download learning materials about effective presentation skills; watched videos about it (OGJ) Issue: Students lack of technology, lack of access to the internet, lack of TK to use Cidos	• Saw a small increment in the number of students who used Cidos. • Noticed the problem in implementing BL, as the majority of her students did not have access to technology and the internet to use Cidos. • Noticed some students did not have the knowledge to use Cidos • Received new information about her students and their needs – students' did

(IA3, OPD2)	their own before attending class. • Reminded students to get their lesson notes from Cidos, as they're not printed and given to them anymore. (IA3, OGJ)		not have TK to utilise Cidos, they also did not have technology and access to the internet • Awareness about roles to meet students' needs – students need to be taught TK to use Cidos • Awareness in the need to improve own TK and pedagogical understanding to use Cidos and implement BL effectively (OGJ, Focus Group)
Reflections on implementation via Online Group Discussion (OGD)	**Change in lecturer's classroom practice** (Development of change in actions)	**Change in students' learning conducts** (Development of change in actions)	**Change in beliefs/attitudes** (Development of change in beliefs)
• Content – discussion on pedagogical aspect of technology (BL approach and Cidos) • Organisation (10-14 days, online via Whatsapp app) • Self-learning • Support – suggestions, advices from members of the group	• Continued using laptop and LCD projector to display reading materials in the classroom. • Uploaded more than just reading materials, but video clips too to assist reading task; • Continued guiding students towards autonomy, by instructing them to watch the video clip and read the text on their own before attending class. • Reminded students to get their lesson notes from Cidos, as they're not printed and given to them anymore.	• Number of students using Cidos remains the same due to lack of technology and access to the internet in-campus, and lack of skills to use Cidos.	• Awareness to understand BL pedagogy • Awareness on how to improve students' skills to use Cidos. • Awareness on the practicality of implementation of BL and use of Cidos without technology and access to the internet. • Aware of the limitations, decided to maintain the same approach to teach students and achieve learning objectives.

Table 9 Developments in Annabelle's actions and beliefs on technology

7.2.2 Developments in Ella’s utilisation of technology

At the beginning of my fieldwork, Ella's data showed that her beliefs on ESL as a subject seemed to have been moulded by her past ESL learning experiences, particularly with regard to the rules and expectations of ESL. Whilst her beliefs in teaching ESL in her contexts were revealed as influenced by her students' learning needs, which seemed to have effects on Ella's role as an ESL lecturer, her teaching approach and her justification about not using technology in her classroom (Andrew, 2007; Hermans et al. 2008; Ertmer, 2012).

Initially, Ella's focus and attention in teaching ESL appeared to be revolving around her students' proficiency levels in learning ESL, their low motivation to learn English and on meeting her students' different learning needs, particularly in speaking and communication skills to meet the expectations of the ESL course module. These concerns are believed to be on top of the list by ESL lecturers elsewhere (Yoshihara, 2012, p. 41). Ella's data which was generated during classroom observation session (OE1) revealed that Ella's integration and her students' usage of technology in their classroom after she attended the first professional development session (PD1) as nil. This is due to her belief that in order for a lecturer to use technology effectively, she/he needs to have not only the knowledge or skills to use the technology (technological knowledge – TK), but also the technological pedagogical knowledge (TPK), and time to spend on the preparation and access to technological tools and facilities. She also believed that students need to have technological knowledge too so as to utilise technology in their learning. As her students have low motivation to learn English, Ella did not want to add another challenging element such as technology in her teaching, which she believed would affect their motivation. Ella's belief on this matter seemed to remain unstirred, which resulted in no change in her classroom practice, although she attended PD1. At this point, Guskey's proposition about change in lecturer's pedagogical beliefs only happens after experiencing a change in students' learning conducts (later, outcome), which was due to change in lecturers' practice seemed to be correct.

However, Ella began to show commitment to the new instructions to teach CE course, using Cidos as the LMS. This was revealed during her third interview (IE3) session which was conducted after the second professional development session (PD2), where she stated that she took her students to the language lab and spent two hours trying to introduce them to Cidos and its operation. At this stage, the shift seemed to have taken place in Ella's practice, from not using technology to teaching particular technological skills (TK) to students as the new skills they need in learning the ESL course. Ella's initial focuses and attentions in teaching ESL which had been revolving around her students' proficiency levels in learning ESL, their low motivation to learn English and on meeting her students' different learning needs have been shifted to steering her students toward autonomy by using technology/Cidos to download their reading texts about points on effective presentation skills which they needed to read before attending her class. Her data confirms Guskey's proposition that change in lecturer's belief occurs after a change in classroom practice and students' learning conducts.

Although Ella's pedagogical understanding about blended learning lacked as this kind of knowledge was not taught in detail in both PD1 and PD2, her inclusion of Cidos in her practice increased, as a result of further development in her TK during PD2 and seeing the usefulness of Cidos. She became more engaged with her Cidos platform, uploading not only compulsory learning content but other materials such as video clips and links to ELT websites which provide relevant and extra information about the topic her students were currently learning. These were particularly revealed during her third interview (IA3) session, which was conducted after professional development session two (PD2).

Nevertheless, Ella's development and enthusiasm seemed to decline after the IA3 session. Although there was a small increment in the number of students who began to use Cidos, the majority of them still failed to access the LMS due to reasons like lack of knowledge to utilise it, lack of technology and access to the internet and this disrupted Ella's implementation and pace of teaching. Plus, she started to give the impression that technological knowledge (TK) alone would not allow her to implement blended teaching effectively, as she began to feel that she need to know more than just uploading and

downloading materials. During reflective online group discussion (OGD) and focus group (FG) session, Ella voiced out her concern of not being able to achieve the objective of her lessons as her students did not have the tools to access the materials she tried to deliver using Cidos. This shows that Ella's beliefs about the practicality of technology integration in her ESL teaching context seemed to be stirred and re-shaped by these new experiences.

Professional Development 1 (PD1)	**Change in lecturers classroom practice** (Development in actions)	**Change in students' learning conducts** (Development of change in students' actions)	**Change in beliefs/attitudes** (Development of change in beliefs)
• Content – focused only TK to use Cidos, lack input on pedagogy of BL and use of Cidos • Organisation – a one-off course, short in time, speedy teaching • Authority's (instructor's) competencies - has knowledge about Cidos but not about ESL pedagogy • Support – post PD1; lack of support (technology, morale etc.) (IA1)	• Knows a few features and functions of Cidos – to upload learning materials and to use the chat room function for classroom discussion (based on own experience using a VLE while attending a postgraduate diploma course). However, usage was initially nil. • Had not completed Cidos task during PD1– only uploaded some notes onto Cidos; ESL module still not acknowledged as a blended module. (IE1, OE1, IE2)	• 2 out of 26 students started to use Cidos to download learning materials and printed them (OE1, IE2) • Showed an early sign toward being autonomous by using Cidos to download their own learning materials. Issue: Students lack of technology, access to the internet	• Knew that students never used Cidos and that they needed the technological knowledge to use it. • Formed new beliefs about own roles to meet students' other ability and needs i.e. to use Cidos - students do not have TK to utilise Cidos. • Started to believe that students would use Cidos after learning about Cidos. • Beliefs about the need to have pedagogical understanding to use Cidos

			effectively (IE1, IE3)
Professional Development 2 (PD2)	**Change in lecturers classroom practice** (Development in actions)	**Change in students' learning conducts** (Development in students' actions)	**Change in beliefs/attitudes**
• Content – developed only TK to use Cidos, lack input on pedagogy of BL and use of Cidos • Organisation (2 days, TK, slower pacing) • Authority's competencies • Support (IE3, OPD2)	• Completed Cidos task, uploaded all e-contents • Spent 2 hours at the language lab to introduce students to Cidos and teach its utilisation. • Uploaded video clips, embedded links to ELT websites • Began to integrate technology/Cidos in teaching CE module. • Started to guide students toward autonomy using technology – instructed students to log into the class Cidos platform to download learning materials (reading text) for their lesson • Reminded students to get their lesson notes from Cidos, as they're not printed and given to them anymore. (IE3, OGD)	• 5 students out of 26 started to use Cidos – logged in, download learning materials about effective presentation skills (EPS); watched videos on EPS (OGD)	• Saw a small increment in the number of students using Cidos. • Noticed the problem in implementing the online part of teaching and learning, as the majority of her students did not have access to technology and the internet to use Cidos. • Noticed some students did not have the knowledge to use Cidos • Received new information about her students and their needs – students' did not have TK to utilise Cidos, they also did not have technology and access to the internet •Beliefs about roles to meet students' needs – students need to be

			taught TK to use Cidos •Beliefs in the need to improve own TK and pedagogical understanding to use Cidos and implement BL effectively (OGJ, Focus Group)
Reflections on implementation via Online Group Discussion (OGD)	**Change in lecturer's classroom practice** (Development of change in actions)	**Change in students' learning conducts** (Development of change in actions)	**Change in beliefs/attitudes** (Development of change in beliefs)
• Content – discussion on pedagogical aspect of technology (BL approach and Cidos) • Organisation (10-14 days, online via Whatsapp app) • Own/Self-learning • Support – suggestions, advices from members of the group	• Still did not use laptop and LCD projector in the classroom as a result of unavailability of technology. • Encouraged students to use Cidos to get lesson notes or watch certain video clips relevant to learnt topic prior coming to class • Uploaded more than just reading materials, but video clips too to assist reading task • Reminded students to get their lesson notes from Cidos	• Number of students using Cidos remains the same due to lack of technology and access to the internet in-campus, and lack of skills to use Cidos.	• Awareness to understand BL pedagogy • Awareness on how to improve students' skills to use Cidos. • Awareness on the practicality of implementation of BL and use of Cidos without technology and access to the internet. • Aware of the limitations, decided to maintain the same approach to teach students and achieve learning objectives.

Table 10 Developments in Ella's actions and beliefs on technology

7.3 RQ 1: What are ESL lecturers' pedagogical beliefs and utilisation of technology in their contexts?

Several studies suggest that lecturers' pedagogical beliefs about teaching certain subjects originated from their previous learning experience and thus, are hard to change (for example Pajares, 1992; Richards, 2001; Ertmer, 2006; Guskey, 2002). Rokeach (1968), however, suggests that beliefs have different categories, and some are not totally resistant to change, and this includes lecturers' pedagogical beliefs. A number of studies also suggest that lecturers' teaching contexts, particularly the ones related to their students' ability and their learning needs, are argued as having a strong impact towards their decision in ways to teach certain subjects (Richards, 2001; Ertmer, 2006; Li & Walsh, 2011; Yoshihara, 2012). This includes the choice and usage of instructional materials or tools, such as technology integration in their classrooms (Ertmer, 2006; Kim et al., 2013). For instance, due to constraints such as classroom time and students' proficiency skills, a lecturer's implementation of teaching and learning activities tends to be limited to following the items listed in a particular teaching unit. Lack of technology and access to the internet (Mumtaz, 2000; Zakaria, 2001; Egbert et al. 2002; Samuel & Zaiton, 2006; Kopcha, 2012; Alahmari & Kyei-Blankson, 2016; Liu et al. 2017; Mirzajani et al 2016; Saxena, 2017; Alenezi, 2018; Awang et al. 2018; Mokmin, 2019) and funding (Gao, 2019) plus students who lacked skills in using technology (Judi, et al. 2011; Melor, et al. 2012; Nordin et al. 2016; Hsu, 2016) are another examples of a teaching context which influence a lecturer's beliefs and utilisation of technology.

The suggestions by scholars which are presented above, is to an extent, supported by this study. Both Annabelle and Ella stated their pedagogical beliefs on what they believe as crucial for their students to become successful ESL learners, i.e. mastering English grammar. This particular belief, which could be traced back to their early ESL learning experiences, seems to have a significant influence over their students' proficiency and learning needs. Both Annabelle and Rosella stress the importance of fulfilling these needs if their students are to become successful ESL learners. For instance, Annabelle believes that her students' L2 proficiency is low, where they are particularly weak in vocabulary

and grammar. To Annabelle, although the focus of the Communicative English (CE) module is largely on communicative skills where grammar is taught implicitly, she still believes that the students need to be taught grammar explicitly so that they could communicate using English effectively.

Similarly, Ella believes strongly about her students' ESL level proficiency which ranges from average to low. Thus it is her priority to meet their needs in mastering grammar in order to develop and better improve their competency in communicative skills. This supports scholars' suggestion (for example Richards, 2001; Ertmer, 2006; Li & Walsh, 2011; Yoshihara, 2012) that lecturers' teaching contexts, particularly the ones related to their students' ability and their learning needs, are argued as having a strong impact towards their decision in ways to teach certain subjects.

It is interesting to learn that, apart from similarities in beliefs about their students' levels of proficiency which range from average to low and the importance to meet this particular need, Annabelle and Ella differ when it comes to implementing their beliefs in teaching ESL course and at the same time, adapting to the requirements of the syllabus. For example, Annabelle showed how she tried to adapt to the expectations of the new syllabus, which sees the reduction of classroom hours. She too, tried to adapt to the instructions to use a teaching approach which combines classroom and online environment (blended learning - BL) to teach the CE module, by using technology to prepare her lessons and store her teaching materials and then display them in the classroom and thus making a smooth transition between one activity to another. These were done despite lack of technology and access to the internet in her classroom, by bringing her own technological devices such as laptop, LCD projector and mobile Wi-Fi to her classrooms.

While Ella believes that in order for her to meet the syllabus requirement and her students' learning needs, she would focus on developing the targeted skills using approaches which she believes as suitable and practical to be implemented, and does not necessarily include the use of technology. As her teaching context experiences lack of technology and access to the internet, she did not use technology in her classrooms which she found

too hassle to do having to bring her own technological equipment such as laptop and LCD projector from class to class. Based on her strong beliefs in practicality in teaching the CE module in her contexts, Ella seemed to, at the beginning 'ignored' the instruction to teach the module using BL approach. Their differences in this matter seem to support the study by Cox et al. (2004) who moved away from the constructivist framework to analyse lecturer technology practices which were shaped by pedagogical beliefs. They did this by analysing lecturers' perception of technology in the teaching process, that is, as a 'servant' (describing Annabelle) to reinforce existing practices. In this way, trying new approaches to a task is perceived as necessary (to Annabelle and unnecessary to Ella) to utilise the technology.

7.3.1 Relationship between lecturers' pedagogical beliefs and previous ESL learning experience

Scholars suggest that lecturers' pedagogical beliefs about teaching their subjects are to an extent, linked to their previous learning experience (Pajares, 1992; Richards et al., 2001; Richardson, 2003; Keys, 2007) and this study seems to support the suggestion. Annabelle and Ella both believe rather strongly about the need for them to prioritise the teaching and learning of grammar in order for their students to communicate effectively in English, despite the fact that the ESL course they teach requires that grammar is taught implicitly. This could be linked to their experience learning ESL - Annabelle learnt English largely through grammar focused activities, and she turned out to be a successful English language learner and thus, believes that having a good grasp of grammar is important for her students to communicate effectively in English. On the other hand, Ella, at a very young age, was trained about the importance of accuracy by her mother, who gave strong emphasis on getting her grammar correct all the time.

This echoes Rokeach's (1968) proposal about type C beliefs, i.e. belief about authority (in this study, Annabelle's and Ella's belief about lecturers' and parents' teaching/advice regarding the importance of mastering grammar) which is rather resistant to change. Both Annabelle's and Ella's pedagogical beliefs regarding the learning of ESL have been

identified as type C beliefs, that grammar is very important skills that the students need to master in order to become successful ESL learners, just like their lecturers. This particular belief is quite resistant to change since it was formed years back, from life as a pupil in the ESL classroom to the variety of professional context they encounter as lecturers (Richardson, 2003; Keys, 2007). They have since acted like a filter or a judge in the lecturers' belief systems, filtering new information on other ESL teaching techniques and judging whether or not they are suitable for their own teaching context (Abelson, 1978).

The fact that both Annabelle and Ella became successful ESL learners in a lecturer-centred learning context and without the existence and utilisation of technology, to an extent, influenced their belief systems. This echoes suggestion by Pajares, 1992; Richards et al., 2001; Richardson, 2003 and Keys, 2007 that lecturers' pedagogical beliefs about teaching their subjects are to an extent, linked to their previous learning experience and these are critical factors in how technology is actualised in the classroom (Becker, 2000; Cox et al. 2004; Orlando, 2009; Wozney et al. 2006). For Ella, her refusal to utilise technology at the beginning of this study seemed to have been made stronger by limitations such as lack of technology and access to the internet in her current teaching context.

7.3.2 Relationship between pedagogical beliefs and actual practice in the classroom

Several studies suggest that lecturers' beliefs about approaches to teaching certain subjects in their contexts are usually followed by implementation in the classrooms (Vacc & Bright, 1999; Czerniak & Lumpe, 1996; Wilson & Wineburg, 1988; Fang, 1996). However, there are also studies proposing that lecturers' pedagogical beliefs about utilising technology in their context are not always followed by action due to the influence of external factors like lack of access to computers and software, insufficient time to plan instruction, and inadequate technical and administrative support (Dexter et al., 1999, Cuban et al., 2001; Bitner & Bitner, 2002; Bullock, 2004; Ertmer, 2006; Chen, 2010),

limited or improper theoretical understanding (Chen, 2010) as Fullan (2001) suggested, lecturers may value and state the concepts of a promoted change precisely, but fail to understand how to put these concepts into practice.

Both participants in this study were observed as implementing their stated beliefs about teaching and learning the ESL courses in their particular contexts and thus supporting other scholars' suggestion (for example Vacc & Bright, 1999; Czerniak & Lumpe, 1996; Wilson & Wineburg, 1988; Fang, 1996). For instance, Annabelle believes that her students are weak in grammar and vocabulary, and thus she includes grammar and vocabulary slots in her teaching. Ella, who believes that her students are weak in grammar and vocabulary and believes that they need to improve these skills in order to use English effectively, makes her effort to correct her students' grammatical errors whenever they use English in the classroom, on the spot.

When it comes to utilisation of technology in their teaching context, both Annabelle and Ella stated that they believe in the affordances of technology in supporting their students' language learning needs. However, their data revealed that stated beliefs in technology usefulness did not necessarily lead to full use or actual use of technology in their contexts, agreeing with Dexter et al.(1999), Cuban et al. (2001); Bitner & Bitner, (2002); Bullock, (2004); Ertmer, (2006) and Chen, (2010). For example, Annabelle believes that using video clips that have similar contents to reading texts could aid her students' understanding when they read the reading text. Recognising limitations like lack of access to the internet in the classroom, she downloaded some video clips from YouTube and saved them as offline files and later displayed to her students during class, using her laptop and LCD projector. Although she believes that her students' lack of vocabulary and weakness in pronunciation could be improved by using online dictionary which offers a quick translation and pronunciation of words, but due to lack of access to the internet and technology, her students still used paper dictionary to look for meanings of words. In order to improve their pronunciation, Annabelle taught them how to pronounce the words correctly. These revealed that her stated beliefs did not always follow by full use of technology due to the influence of limitations. Whereas Ella believes that her students

who are weak in grammar could benefit from learning from websites like BBC Learning English that offers free grammar lessons. This particular belief about the advantage of technology to her students' learning needs, however, was not followed by action due to the influence of external factors such as lack of technology and access to the internet in the classroom and Ella's pedagogical belief about contents of the subject that could be taught and learnt without having to use technology.

Regarding this phenomenon, Chen (2010) suggests that lecturers may hold conflicting beliefs without being aware of the conflicts, and some beliefs are closer to their central belief systems (Rokeach, 1968), so that lecturers may resist the belief change. Sometimes, lecturers' other conflicting beliefs had a greater effect on instruction and technology use than did the participants' expressed pedagogical beliefs. Moreover, external barriers in lecturers' daily teaching might reinforce those conflicting beliefs. For example, all participants reported that they were under pressure to cover all content, and most participants were unwilling or hesitant to spend valuable class time trying to make technology work, which sometimes don't, due to interruptions caused by external factors such as lack of access to the technology and the internet. Although the pressure of content coverage might come from external factors such as school organisation, a commonly accepted belief is that lecturers need to cover more content both to guide student learning and to fulfil lecturer obligations.

7.4 RQ 2: How did professional development influence ESL lecturers' beliefs and utilisation of technology in their teaching contexts?

7.4.1 "One-off" professional development 1 (PD1)

7.4.1.1 Change in lecturers' classroom practice after attending PD1

Researchers have suggested that there are connections between lecturers' pedagogical beliefs and professional development (Guskey, 2002; Desimone, 2009 & 2011; Fishman et al. 2001), and lecturers' professional development is a key factor that influences

lecturers' attitudes towards computers, (Hew and Brush, 2007; Keengwe and Onchwari, 2008; Kopcha, 2012; Ziyadah, 2012; Gilakjani, 2013; Shammari & Higgins, 2016; Alahmari & Kyei-Blankson, 2016; Hsu, 2016; Alenezi, 2018) develop both beginner and experienced lecturers' competences in computer use (Bauer & Kenton, 2005; Franklin, 2007; Wozney et al. 2006), as well as assisting lecturers to reorganise the task of technology and how new technology tools are significant in student learning (Plair, 2008). Researchers also suggest that formal professional development (PD) alone is inadequate in changing lecturers' practice in their teaching context (Egbert et al. 2002; Kessler, 2007; Moen, 2015; Jones & Dexter, 2014 & 2018; Macia & Garcia, 2016) and that professional development which is conducted to develop lecturers' skills to use certain technology in their teaching context is a complex process as it often aims to change lecturers' pedagogical beliefs first so that their practice would change too (Guskey, 2006, 2010; Joyce & Showers, 2006; Ertmer, 2006; Chapelle, 2008; Levy, 2008; Ciascai & Marchis, 2016). Guskey (2010) however, argues that change in lecturers' beliefs does not necessarily occur during or after professional development, but takes place after a change in classroom practice and students' learning outcomes.

Literature also suggests that both efficiency and inefficiency of professional development in changing lecturers' beliefs and actions in using technology in their teaching context are often measured by the transfer of the newly learnt skills into classroom implementation. For professional development involving technology to be effective, a number of considerations are to be taken into account, such as; first, it needs to focus on the pedagogical as well as technical aspects of technology use (Jones, 2004; Mishra & Koehler, 2010). Second, it has to be context-embedded and address the lecturers' immediate needs (Egbert et al., 2002; Vrasidas & McIsaac, 2001; Joyce & Shower, 2006). Third, it has to take the lecturers current belief systems into account (Antonietti & Giorgetti, 2006, Ertmer, 2006, 2009), an area that is still under-researched (Tondeur, Hermans, van Braak, & Valcke, 2008). Fourth, lecturers should be given the opportunity to experiment with what they have learned (Md Yunus, 2007).

The first professional development (PD1) was conducted as a one-off session, the type of professional development that is often criticised by scholars as the one that does not support lecturers' classroom implementation as it does not allow for ongoing guidance (Joyce & Showers, 2006; Guskey, 2009; Attia, 2011) and thus, a "waste of both time and money" (Guskey, 2009, p.496). This notion is also supported by Egbert et al. (2002), Kessler (2007), Moen (2015), Jones & Dexter, (2014 & 2018) and Macia & Garcia (2016) that formal professional development (PD) alone is inadequate in changing lecturers' practice in their teaching context. The absence of follow-up sessions and ongoing guidance after PD1 seemed to have affected the lecturers' progress in utilising Cidos because they did not have the chance to communicate with their colleagues about difficulties in their progress and they had constraints (time) to continue their progress in completing the Cidos platform. During the initial interview session (IA1) Annabelle revealed that after attending PD1, her CE module was still not acknowledged as a blended module because she had not uploaded a certain amount of e-contents and updated her Cidos platform as she had forgotten certain functions in Cidos and thus, she labelled Cidos as "complicated" (IA1). She also stated that she did not have the chance to talk or ask about blended learning and features of Cidos from other ESL lecturers as they seemed busy with their teaching job. This could be explained by analysing the way PD1 was organised, i.e. the participants were selected from several departments (Annabelle and Ella represented English Language Unit), and the 8-hour and 'one-off' professional development did not give the participants enough time and chance to get to know and connect with each other. This supports the suggestion by Ertmer (2006) and Ahmadi (2018) that lecturers need to have the opportunity to seek guidance from their colleagues who can help them deal with technical and pedagogical difficulties. Similarly, Joyce & Showers (2006), Md Yunus, (2007), Guskey (2009), Attia (2011) and Avalos (2011) suggest that if the aim of professional development is to change lecturers' practice, the content needs to be restated several times in other for lecturers to understand, familiarise themselves with the newly learnt skill and have confidence before implementing it. The organiser of PD1 could have considered selecting a few more ESL lecturers so that they could work as a team during and after the professional development (PD1).

As for Ella, she managed to upload most of the required e-contents onto her Cidos platform during PD1 but had not done other things to the LMS platform, such as updating information about the course after the one-day professional development session as she "was busy with other stuff" (IE1), referring to her workload, namely teaching 18 hours per week, doing clerical work, professional development students for competitions and attending courses and meetings (IE1). As a result, her integration of Cidos in her lessons was observed as nil (OE1) thus supporting suggestion by Samarawickrema & Stacey (2007), Kumar et al. (2008), Neyland (2011), Abuhmaid (2011), Kale & Goh (2012) and Mei Lick et al. (2017) that lecturers' workloads influence their beliefs and their acceptance of technology in their teaching context.

Even though both Annabelle and Ella gained certain knowledge and skills about the features and functions of Cidos, they were not specifically sure how they were supposed to apply them in the teaching of ESL course in their context. For instance, Annabelle, during the first interview session (IA1) stated that despite knowing certain features and function of Cidos, she was still clueless about the pedagogical aspects of blended learning and Cidos, and thus, thought of it as something that is too complex for a "not that IT-savvy" (IA1) person like her to handle. While to Ella, she felt that the definition of blended learning which was given at the beginning of PD1 which is "combination of face-to-face and online learning" (IE1) was not enough as she questioned "what to blend and how to blend correctly" (IE2). Lack of understanding on the pedagogical aspects of integration of technology in teaching seemed to have impacted both participants' utilisation of Cidos where they only used it to upload units of Communicative English (CE) course module. This agrees with Jones (2003), Sandholtz & Reilly (2004), Mokmin et al. (2019) and Gryzelius (2015) who suggest that for professional developments to be effective, lecturers need to focus on the pedagogical as well as technical aspects of technology use.

Annabelle's and Ella's responses suggest that they benefit less from PD1 due to the incompetency of the trainer as the "authority" (Rokeach, 1968) in delivering the

pedagogical content of Cidos. The instructor of PD1, even though is known as someone who is well-versed about technology and Cidos due to his position as the institution's e-learning coordinator who holds a doctoral degree in the role of technology in teaching a particular engineering course, does not have ESL teaching background. This explains why the content of PD1 was largely on technology (such as the features and functions of the navigation buttons in Cidos) and the examples given (such as lesson notes, pictures and videos) mainly revolved around his own teaching and learning context, thus agreeing with Chappelle (2006), Hubbard and Levy (2006) who suggest that instructors of technology professional development often have restricted, fragile and in this study, probably zero knowledge of the area of technology and language teaching and learning. Similarly, Borko and Whitcomb (2009) recommend that lecturer trainer must become familiar with technologies for lecturers' own context so as to support their learning and later their implementation in their own classrooms.

Scholars suggest that during professional development session, lecturers should be given the opportunity to experiment with what they have learned (McDonald & Naso, 1986; Md Yunus, 2007; Guskey, 2009) However, as a one-off session, PD1 did not offer enough opportunity such as time for the lecturers to experiment what was learned, as the instructor tried to impart as much information as he could within the time given. This seemed to be problematic because the lecturers as learners, who can only process so much new information at one time. Even an individual like Ella who believes that she is an "IT savvy" (IE1) person, who had the experience in using a VLE called AskNLearn while attending a 6-month postgraduate diploma course, admitted that although Cidos is also a VLE, it does not have similar features like AskNLearn. Thus, she needed time to learn and understand Cidos' technical features and functions. As for Annabelle who perceives herself as a "not-IT savvy" (IA1) individual, too many technological matters to learn in one session seemed to make her feel overwhelmed, when she stated, "I only know how to upload notes for my students, the rest is complicated" (IA1). This issue was also reflected in both participants' progress in transforming their CE module into a blended learning module by uploading certain numbers of e-contents onto their Cidos platforms. Both Annabelle's and Ella's CE modules remained as non-blended module until they

attended the second professional development (PD2) which was then conducted by the English Language Unit e-learning key person, about 6 weeks after PD1.

7.4.1.2 The impact of the absence of content on pedagogical aspects of blended learning and the use of Cidos towards ESL lecturers' practice and beliefs

Scholars have reminded that one-off professional development sessions are often stuffed with too much information and do not offer enough time for lecturers to try out what has been learned (Guskey, 2002 & 2010; Joyce & Showers, 2006; Attia, 2011; Avalos, 2011). These reminders seemed to be related to this study. After PD1, Annabelle's words and actions revealed how she was struggling to understand the new instruction for her to use Cidos and implement blended learning. She clearly stated that when others were talking about the new practice, she was clueless of its meaning and the only thing she knew about Cidos was its one function, i.e. to use it to upload CE module units. Due to lack of input on blended learning pedagogy and use of Cidos, Annabelle's classroom practice still largely showed the influence of her pedagogical beliefs about her students' needs, which strictly revolved around improving their language accuracy and making them understand the subject content delivered orally by their lecturer, in the classroom. The expectations to develop certain 21st-century skills in students, such as the ability to use technology to enhance their learning experience, collaborate with peers and become autonomous learners, have so far not been fulfilled. The impact of PD1 towards Annabelle's beliefs toward Cidos and use of Cidos seems to resonate McDonald and Naso's (1986) suggestions that lecturers own professional development has implications for the ways in which they teach their students to learn.

It appears that lack of pedagogical features of the combination of classroom and online teaching in the ESL context in PD1 also played a role in Ella's beliefs and action about technology integration in her teaching context. As a participant who believes herself as an "IT savvy" (IE1) person and who seems to be quite well-informed about the use of technology in teaching and learning due to her previous professional developments, Ella has always been realistic when it comes to integrating technology in her own teaching

context. Her descriptions during the initial interview session (IE1) revealed her beliefs that without sufficient "theoretical understanding" (IE1), lecturers would not be able to effectively integrate technology in their teaching context (ibid). This was evident, too, in her practice. During my visit to her classroom (OE1), Ella's teaching approach showed her pedagogical beliefs which circled the needs to make her students feel motivated to learn English, to understand the meaning of words in the reading texts in order to do the reading comprehension tasks and to improve accuracy in speaking, all these that could be achieved without utilisation of technology. As technology had not been included in her teaching context, the expectations to develop certain 21st-century skills in students, such as the ability to use technology to enhance their own learning experience and become autonomous learners seemed too far to be accomplished. Therefore, due to a very limited pedagogical input on how to blend Cidos in her own ESL teaching context during PD1, Ella made her decision to not proceed with an approach she was not sure about. Even though she stated that she experienced face-to-face and online lectures using AskNLearn as the VLE during a 6-month postgraduate diploma course which she attended a few months before PD1, she stated that she was not officially informed that the professional development was conducted using blended learning approach and thus chose to not make any guess about it. This echoes Fullan's (2007) argument that when lecturers are not clear of the meaning of a new approach that they need to change and adapt, the reasons why they need to change etc. then the implementation of the targeted approach will not happen as expected or happens less effectively.

7.4.2 "Ongoing" professional development 2 (PD2)

Scholars stress that effective professional development that could be conducted to change educators' practice should avoid the "one-off" form of professional development (Guskey, 2003 & 2009; Ertmer, 2006; Joyce & Showers, 2006; Avalos, 2011) as it has limitations in terms of content and time for lecturers to absorb discoveries, reflect and adapt practices and thus brings less impact on lecturers' beliefs and use of technology in their teaching context, and this is evident in this study. Instead, many researchers recommend the professional development to be "ongoing" (for example Egbert et al.

2002; Kessler, 2007; Egbert et al. 2002; Moen, 2015; Jones & Dexter, 2014 & 2018; Macia & Garcia, 2016). In Politeknik Adiwira, the English Language Unit Cidos and e-learning key person, upon seeing slow progress in ESL lecturers' use of Cidos even after attending PD1, decided to conduct in-house workshops (this study refers to as professional development 2/PD2) on Wednesday and Friday afternoons, about 6 weeks after the first professional development (PD1). The criteria of the workshop were quite similar to PD1, particularly the content of the workshop, which was largely on the technical and not pedagogical aspects of Cidos. The instructor, even though is an ESL lecturer, has no professional development in Cidos integration in ESL teaching context. This time, initially, it seemed like the participants' technological skills would be developed further, but their pedagogical skills in utilising Cidos in their classroom would remain the same.

However, this session (PD2) turned out to have a more significant impact on Anabelle's and Ella's progress as compared to PD1. They had the opportunities in terms of time and space to revisit and relearn Cidos' features and functions, interact with their colleagues (this time, they are from the same unit), get and give technical and moral support from them. The results seemed encouraging because the two participants finally succeeded in turning their Communicative English (CE) module into a blended module. This echoes Levin and Wadmany's (2008) suggestion that the opportunity to practice, reflect and interact with other lecturers are crucial in the process of facilitating classroom technology integration. On a similar note, Granger et al. (2002) state that "the importance of collaboration cannot be over-estimated: lecturers need each other - for team teaching and planning, technical problem-solving assistance and learning" (p. 486).

During the second observation session (OA2), Annabelle, who, at the beginning of this study was less confident than Ella in using Cidos, seemed to have upgraded not only her technological understanding of the features and functions of Cidos but also her self-confidence in navigating Cidos platform when she managed to upload several video-clips which she used to keep in her laptop as offline files. Whenever she encountered problems while trying to upload the video-clips, she received prompt technical support and advice not only from the instructor who was busy helping other participants but also from her

colleagues who are more IT-savvier, like Ella. McDonald and Naso (1986) suggest that lecturers who are learning, need collegial advisers rather than supervisors as advising is a personal thing. Ertmer and Ottenbreit-Leftwich (2010) remind that lecturers' computer competence remains insufficient if they do not have the confidence to use these skills to achieve better learning outcomes. This argument was also echoed by Bingimlas (2009), Demetriadis et al. (2003), Jones (2004) and Lam (2000), who claim that influences for adoption are of particularly importance since lecturers who are low in confidence are more likely to avoid using technology. During this session too, apart from her self-confidence toward Cidos which seemed to have improved, Annabelle's pedagogical understanding toward technology to an extent also seemed to have developed when she spoke (during IA2 session which was conducted after the workshop) about the benefits some selected videos would bring to her students as they could watch these videos to help them understand the texts they read.

As for Ella, once she completed her Cidos task by uploading all the required e-contents onto her Cidos platform and got her CE module acknowledged as a blended module, she took the chance to help other colleagues to complete their tasks as well. This reiterates the points proposed by several scholars that lecturers need time, among other things, to interact with colleagues, attend professional development sessions, try out the technology and reflect on their progress. It is, therefore, not surprising that a large number of studies report lack of time as a major hindrance to technology implementation (for example Lam, 2000; Wabuyele, 2003; Al-Asmari, 2005; Granger et al. 2002; Md Yunus, 2007; Hermans et al. 2008; Quek & Zhong, 2017; Mei Lick et al. 2017; Alenezi, 2018). My visit to PD2 session (OA2 & OE2) revealed certain criteria offered by PD2 which echo ideas on effective professional development by scholars such as McDonald & Naso (1986); Joyce & Showers, (2006), Hubbard & Levy (2006), Kessler (2007), Ertmer, (2006), Md Yunus, (2007), Guskey (2009), Attia (2011) and Avalos (2011) who suggest that professional development session which aims to change lecturers' practice needs to contain subject matter that is repeated several times (through ongoing professional development) as lecturers need to see it, hear it, read it, talk about it with others and then try it out themselves.

7.4.3 Non-formal professional development: Online Group Discussion (OGD) session

If professional development is aimed at lecturers' effective implementation of the newly learnt subject matter in their teaching context, scholars (for example Putnam & Borko, 2000; Ertmer, 2005; Hubbard & Levy, 2006; Kessler, 2007; Borko & Whitcomb, 2009; Macia & Garcia, 2016 and Jones & Dexter, 2014 & 2018) suggest that it should not only have limited to formal courses, workshop or other formal interactive settings, such as online courses. Lecturers' pedagogical beliefs and practice are more likely to change as they participate in professional communities that discuss new materials, methods, strategies, and that support the risk-taking and struggle involved in transforming the practice and this also involves a community of practice and mentoring (Hubbard & Levy, 2006).

Joyce and Shower (2006) suggest an ideal professional development should contain several sessions that could be conducted at least eight weeks to help lecturers to implement a new approach in teaching a certain subject in their particular context. In their longitudinal study, Postareff et al. (2007) report that Finnish lecturers who participated in a professional development programme of less than twelve weeks only marginally changed their attitudes towards teaching and learning, suggesting that triggering changes in lecturers' attitudes towards student-centred learning takes time. Other scholars also suggest that besides formal professional development, non-formal professional development plays an influential role in the implementation of innovations because lecturers learn from each other as they exchange ideas and share experiences (Egbert et al. 2002; Granger et al., 2002; Gobbo and Girardi, 2001; Zhao and Frank, 2003). Granger, et al. (2002) state that "the importance of collaboration cannot be over-estimated: lecturers need each other - for team teaching and planning, technical problem-solving assistance and learning" (p. 486). They, therefore, suggest giving the lecturers more opportunity to interact for better utilisation of technology.

In this research, an online group discussion (OGD) via WhatsApp which was set up after professional development 1 and 2 sessions, about two and a half weeks before the end of my fieldwork provided a platform for the participants to reflect on their utilisation of Cidos in their lessons. The data which was generated from the session to an extent, support the suggestions by scholars (for example Putnam & Borko, 2000; Gobbo and Girardi, 2001; Egbert et al. 2002; Granger et al., 2002; Zhao and Frank, 2003 Ertmer, 2005; Joyce & Shower, 2006; Hubbard & Levy, 2006; Kessler, 2007; Macia & Garcia, 2016 and Jones & Dexter, 2014 & 2018) that "one-off" professional development session (PD1) which was then continued by "ongoing" professional development session (PD2), and followed by the online group discussion session (OGD) as a non-formal professional development to an extent, work hand in hand to influence change in lecturers' pedagogical beliefs about technology and use of the technology. Annabelle, for example, started the session by expressing her frustrations when the majority of her students did not log into Cidos and do as instructed. Ella then responded by describing the same thing that happened in her classroom. Both ended up comforting each other using expressions such as "I feel you" and "You're not alone". Apart from that, they also exchanged hugs, smile and love emoticons. This finding is in line with Gobbo and Girardi's (2001) study where their research participants found it more convenient to share their weaknesses with co-workers who were more acquainted with their teaching realities, thus making them feel less isolated and motivated to carry on the implementation. Jones and Dexter (2014) state that the flexibility and choice inherent in non-formal learning may assist lecturers in collaborating with peers on specific needs and at the most convenient times and provide a greater level of just-in-time support (p 370).

The opportunities to connect to each other, which was available in OGD platform allowed Annabelle and Ella not only to share their thoughts, feelings and frustrations but also issues in Cidos implementation in their teaching context. Both Annabelle and Ella agreed on the cause for this phenomenon, i.e. students lack the technology and access to the internet, an influence which was stated by scholars (for example Mumtaz, 2000, Zakaria, 2001; Egbert et al. 2002; Samuel & Zaiton, 2006; Kopcha, 2012; Alahmari & Kyei-Blankson, 2016; Liu et al. 2017; Mirzajani et al. 2016; Saxena, 2017; Alenezi, 2018;

Awang et al. 2018; Mokmin, 2019) in their respective studies. The opportunity to frequently talk about similar frustrating situations seemed to have raised their awareness to a higher level when they also agreed on the fact that this issue would go on unless actions are taken by the institution to improve the situation such as providing better access to technology and the internet. Hence, they decided to make their voice heard by asking the key person of English Language Unit e-Learning committee to bring this matter up in the management meeting.

During OGD session, Annabelle also revealed further development in her awareness about her students' new learning needs (apart from the need to improve only their language accuracy which has been her major focus in her teaching) when she stated that they lack certain skills to use Cidos particularly technological and also autonomous skills thus, supporting findings by several researchers (for example Judi, et al. 2011; Melor et al. 2012; Nordin et al. 2016 and Hsu, 2016) which suggest students' technological skill as a determiner for lecturers' technology utilisation in their classrooms.

During a focus group discussion which was conducted at the end of OGD, Annabelle suggested the English Language Unit to organise sessions such as 'introduction to Cidos' to students taking ESL course at the beginning of a new semester to inform them about the mode of teaching and learning of the course and also prepare them to use Cidos. This issue, however, was identified earlier by Ella. Her professional development in technology and second language learning during her lecturer professional development days seems beneficial in a way that it made her aware of factors contributing to technology usage in her classroom, such as the devices and access to the internet and also the skills her students need in order to utilise Cidos. She also told them that they could get their study notes from Cidos from that day onwards. The sharing of this experience by Ella during OGD session supported Annabelle's suggestion about the need to conduct 'introduction to Cidos' session at the beginning of the new semester, echoing notions by Putnam & Borko (2000) and Ertmer (2005) that lecturers' practice is more likely to change as they participate in professional communities that discuss new materials, methods and strategies, and that support the risk-taking and struggle involved in transforming practice.

The points that I have presented and discussed above suggest the dynamic of non-formal professional development as a form of ongoing professional developments that if properly managed and nurtured, could contribute to further development in both Annabelle and Ella's pedagogical beliefs and practice in utilising Cidos in their teaching context. During the OGD session, both lecturers used this opportunity to start communicating about blended learning and Cidos pedagogy, the content that was lacking from PD1 and PD2. They started questioning the definition of it. Ella, who took the lead in the conversation, suggested that they should look for the information from the internet and post them in the OGD. They seemed to remember the book on Blended Learning which I lent them a few weeks back and stated that they would try to have a look at it as well as before this they had not got the time to read the book.

7.4.5 Change in ESL lecturers' beliefs towards the role of technology and technology utilisation in their teaching context

This study suggests that change in lecturers' pedagogical beliefs toward technology (Cidos) as suggested by Guskey's model of lecturer change (2010), did not occur after professional development 1 (PD1) session due to the organisation, content and authority of the professional development which could be categorised as non-high-quality professional development (Brinkerhoff, 2006; Diehl, 2005; Lawless & Pellegrino, 2007 & Kopcha, 2012). As suggested by scholars that beliefs profoundly influence lecturers' decision-making processes and actions/practices (for example Borko et al., 1979; Nespor, 1987; Kagan, 1992; Pajares, 1992; Richardson, 1994; Borko & Putnam, 1996; Woods, 1996; Ertmer, 2006), the beliefs of the participants in this study regarding technology utilisation in their teaching context were interpreted as unchanged, as findings revealed no progress in both Annabelle's and Ella's use of Cidos after PD1.

However, it is interesting to discover that Guskey's suggestion regarding the change in lecturers' beliefs occurs after a change in classroom practice and change in students' achievement was supported by this study. Both Annabelle's and Ella's beliefs about the

potential of Cidos in their teaching context seemed to have shifted after their initial instructions for their students to use Cidos (students were asked to download their lesson notes from Cidos) received positive responses from several students who indicated a change in students' learning conduct. This initial shift in Annabelle's and Ella's beliefs was also further nurtured by PD2, in the form of in-house professional development which involved lecturers from the same unit – English Language Unit, despite still having similar characteristics of PD1 as non-high quality professional development. Being with colleagues of the same unit had given certain advantages for both participants and thus supports Kopcha's findings (2012) which proposed situated professional development activities that concentrate on the subject matter, contribute to the creation of an environment that supported lecturers' decision to use technology. This seems to agree with studies which suggest the importance of ongoing formal professional development sessions in changing lecturers' beliefs about implementing new instructions in their teaching context (Joyce & Showers, 1995; Guskey, 2002; Nancy, 2004; Lawless and Pellegrino, 2007; Kopcha, 2012). Scholars (for example Joyce & Showers; 2006; Postareff et al. 2007; Smith, 2008; Yoon et al., 2007) found that duration of professional development demonstrated a positive and significant impact on change on lecturers' practice that will affect learners' learning.

It is also evident in this study the dynamic of Online Group Discussion (OGD) as a non-formal professional development session which seemed to have the potential to be continued/prolonged as it provided a space for the participants to talk about almost anything related to their implementation of Cidos in their classrooms, for example, their feelings, frustrations, their support for each other and ideas about the definition of blended learning, thus supporting and probably strengthening the development of their beliefs about the technology. This supports the findings of several scholars (for example Egbert et al. 2002; Kessler, 2007; Egbert et al. 2002; Moen, 2015; Jones & Dexter, 2014 & 2018; Macia & Garcia, 2016) which suggest that along with formal professional development, non-formal professional development also plays an influential role in lecturer implementation of innovations.

However, it is also interesting to learn from this research the nature of change in both Annabelle's and Ella's pedagogical beliefs toward Cidos in their context. It was discovered that the change in their beliefs was not something that was fixed, but changeable and this seems to match the description by Nespor (1987) that when a belief changes, it is more likely a conversion or a Gestalt shift, rather than as a result of a gathering of evidence. Like the visual experience of seeing one-way and then another, the shift is instant but could possibly shift back unwillingly. This matches with Rokeach's (1968) description of authority belief (Type C belief), which is not categorised as a core belief, and thus, less resistant to change. In this study, it is evident that Annabelle's and Ella's beliefs about the utilisation of Cidos in their lessons were, to an extent, shifted by a series of formal and non-formal professional development. However, they could still be reshaped by other factors, mainly by lack of access to technology and the internet, as suggested by many scholars (for example Mumtaz, 2000; Zakaria, 2001; Egbert et al. 2002; Samuel & Zaiton, 2006; Kopcha, 2012; Alahmari & Kyei-Blankson, 2016; Liu et al. 2017; Mirzajani et al. 2016; Saxena, 2017; Alenezi, 2018; Awang et al. 2018; Mokmin, 2019). In this study, Annabelle's and Ella's progress in utilising Cidos in their lessons halted, as students' struggled to use the technology due to lack of technology and access to the internet. Plus, their students lack knowledge/skills to use the technology as a result of not being able to practice their skills in using it due to lack of technology and access to the internet had affected the teaching and learning process such as students could not download their lesson notes and watch video clips uploaded by their lecturers in Cidos.

7.5 Summary of key findings

The following outlines the key findings that have arisen from the cross-case analysis:

In the two accounts, there is evidence that lecturers' pedagogical beliefs in ESL teaching and learning were shaped by early learning experiences, particularly successful experiences being ESL learners, influenced by interactions with parents and lecturers and later, by working and teaching contexts. These beliefs influence their attitudes and actions toward the use of technology in their unique teaching contexts. Their students' learning

needs are a strong influence which surpasses their own pedagogical beliefs about the affordances of technology in enhancing students' learning experience and achieving the learning outcomes. A combination of several types of professional development opportunities served as change agents to their beliefs and practice about technology. However, students' access to technology and the internet, plus their ability to utilise technology were proven to be a strong influence on their beliefs and practice.

Chapter 8: Conclusions and contributions

"The reward for work well done is the opportunity to do more" - Jonas Salk (American scientist).

This study has investigated and presented pedagogical beliefs and practice of two ESL lecturers regarding the role of technology in their teaching contexts in terms of change processes experienced by them after participating in professional development programmes. This research also presented other reasons that had influenced change in their beliefs and actions. I conclude this study by addressing the conclusions and contributions of the study to professional development in both local and broader contexts, and also conceptual and methodological contributions. This chapter proceeds with some limitations of the study and suggestions for future research.

8.1 Conclusions

8.1.1 Lecturers' pedagogical beliefs in ESL teaching

In the two accounts, there is evidence that lecturers' pedagogical beliefs in ESL teaching and learning were shaped by early learning experiences, particularly successful experiences being ESL learners, influenced by interactions with parents and teachers and later, by working and teaching contexts. Annabelle's and Ella's particular beliefs about ESL teaching and learning started with their own parents' beliefs about successful ESL teaching and learning technique of a particular school, and, workable approaches teachers used to teach their students to gain accuracy in English. These early beliefs were then supported and strengthened by their teachers' specific pedagogical approach in teaching ESL. According to Rokeach (1968), at a young age, parents' afore children's trusted authorities. Beliefs with respect to what parents or teachers say or "authoritative opinions" (Rokeach, 1968) are argued as resistant to change, since they were later confirmed and strengthened by both participants' successful experiences as ESL learners and became "episodic memories" (Abelson, 1978). These memories, which both Annabelle and Ella accumulated for years at school, were stored in their core belief

systems and would be referred to every time a new knowledge related to ESL teaching and learning is gained. This set of beliefs acts "as very strong filters of reality" (Arnold, 1999, p. 256), deciding whether to accept or reject any new knowledge.

There is evidence of the influence of conventional teaching on Annabelle's and Ella's beliefs about teaching and learning, which could be linked to their early learning experiences. For example, Annabelle described the characteristics of her favourite teacher as somebody who was very hardworking and knowledgeable to the extent where she became her students' source of information (IA1) which reflects her own actions in the classroom (OA1). Next, when she mentioned "learning English is all about learning grammar" (IA1) and then explained the way she was taught grammar which through lots of drilling activities, an approach which has been criticised for being teacher-centred and for not allowing meaningful communication and interaction, which are crucial to language acquisition (Long, 2000).

Meanwhile, Ella was raised by a mother who strictly emphasised on the importance of getting her grammar correct, an idea which was then nurtured by her ESL lecturers when she went to school and strengthened by strings of successful examination results.

8.1.2 Lecturers' pedagogical beliefs and actions in teaching ESL in their contexts

There is evidence in this study that there is a link between ESL lecturers' pedagogical beliefs and their actions, specifically in meeting students' ESL learning needs in the classroom, revealed in this study as having average to low proficiency and accuracy. Annabelle, who learnt ESL subject at school mainly through drilling activities (IA1), would spare at least five minutes at the start of her lesson to recapitulate grammar items which were taught and learnt in the previous lesson (OA1). Whereas Ella, who was scolded by her mother every time she made grammatical errors while speaking English at home (IE1), would immediately correct errors made by her students when they used English in the class or communicate with her in English (OE1); an action that is known as a teacher-centred approach in teaching grammar (Long, 2000).

8.1.3 Lecturers' pedagogical beliefs and actions on the use of technology in their ESL teaching contexts

In all the two accounts, there is evidence that there is a link between participants' pedagogical beliefs and practice in ESL teaching toward the role of technology in their teaching context. Annabelle's data revealed the use of technology which Ertmer (2006) describes as low-level use of technology by lecturers who practice lecturer-centred approach. For example, she used her laptop and LCD projector to deliver the subject contents of Communicative English (CE) course module in her classrooms (IA1, OA1). Annabelle also shows her beliefs on the affordances of technology that could assist her students' understanding of learning the meaning of words through the use of an online dictionary (IA1). Regarding her initial uses of Cidos as a Learning Management System (LMS) platform which was created to encourage the combination of classroom and e-learning to encourage and develop 21st-century skills such as collaborative and autonomous skills in students, Annabelle's words and actions to an extent revealed the influence of her pedagogical beliefs (e.g. teacher-centred approach). This was evident when she screenshot the lesson notes which she had already uploaded onto Cidos (for the students to read prior coming to her class) and displayed them using her laptop and LCD projector in her class so that she could discuss the text and meaning of words to make her students understand and thus able to perform and complete the lesson tasks (IA1, OA1).

Whereas for Ella, her beliefs which seemed to have been shaped by her experiences growing up and then received her education and became a successful ESL learner as a result of learning in a teacher-centred approach environment and without involvement of technology, is reflected in her words and actions (IE1, OE1). Although she was exposed to different kinds of technology preparation both as a pre-service and later in-service lecturer, the influence of what she believes as good teaching had always been a guidance to her about the practicality in using technology in her classroom. Although she stated that technology is useful in supporting her students to improve their grammar and vocabulary, she did not use technology in the classroom due to her belief about the

content of her lesson which could be taught and learnt without the use of technology and because of lack of technology and access to the internet in her context. Regarding Cidos, she did not use it at the beginning even though she believes on the usefulness of an LMS (based on her previous experience using one called AsknLearn while attending a six-month postgraduate diploma course), she did not have the "theoretical knowledge" (IE1), or pedagogical knowledge to utilise it effectively.

This study also suggests that change in lecturers' pedagogical beliefs and actions on the use of technology in their teaching context (which I have concluded in this study as Type D belief), was not something that was fixed, but changeable. This matches Rokeach's description of the nature of type D belief (peripheral belief), which, unlike core beliefs, are not derived from and shaped by strong authorities (like the lecturers' parents and primary school teachers) and broad consensus, but by their training in professional development sessions which this study reveals as less effective and thus, they are less resistant to change. Guskey's model of teacher change seems to suggest that changes in teachers' practice (in this study, via changes in students' behaviour/outcomes) seemed to have impacted Annabelle's and Ella's beliefs about the utilisation of technology in their own contexts. This finding also seems to match arguments by Nespor (1987) that when a belief changes, it is like a conversion or a Gestalt shift. Like the visual experience of seeing one-way and then another, the shift is instant but could shift back unwillingly. Therefore, this study concludes that the whole process of change in the two ESL lecturers' pedagogical beliefs and actions toward utilisation of technology in their teaching context can be seen as cyclical.

8.1.4 Role of professional developments in shaping lecturers' beliefs and actions about the use of technology in their ESL teaching contexts

This study revealed that ongoing and non-formal professional development each has its own dynamic in complementing the one-off professional development in shaping lecturers' pedagogical beliefs and practice toward utilisation of technology in their teaching context. However, for effectiveness to take place, they need to include certain

elements of high-quality professional developments (Lawless and Pellegrino (2007), namely the content which contains both technical and pedagogical input, competent instructors as authorities who are knowledgeable in both technical and pedagogical aspects, understanding of lecturers' various technological learning needs and availability of technological resources and facilities. This was suggested by the two accounts that professional development programmes that only emphasis on developing lecturers' technological skills (PD1 and PD2) resulted in an increase in terms of exploration of Cidos by the participants but its integration in ESL lessons remained unchanged as the lecturers' approach continued to be largely lecturer-centred, and their progress in using Cidos halted as their students lack technology and access to the internet.

8.1.5 Other elements that influence change in ESL lecturers' beliefs and actions about the use of technology in their teaching context

There is evidence in this study which revealed that despite being slowly developed by professional development programmes, lecturers' pedagogical beliefs and actions about technology integration could continuously be influenced by their teaching context, namely students' competency in using the technology and lack of technological facilities and access to the internet in-campus which affected students' ability to use Cidos (IA1, IA2, OA1, OA2, IE1, IE2, OE1, OE2, OGD, FG). This echoes Rokeach's (1968) proposition regarding a person's type D beliefs called 'authoritative opinions'. These beliefs, due to the nature of their formation, and location, in the belief systems, which is relatively far from the core beliefs and thus are less resistant to change especially by impactful events in their contexts.

8.1.6 Limitations of this research study

It is significant to show awareness of this study's limitations, in line with reflexivity found in qualitative research (Stake, 1995; Merriam, 1998; Russell & Kelly, 2002; Watt, 2007). There are several conditions that have affected the data that I wanted to gather to answer my research questions more effectively. Through my chapters on methodology, I have

sought to address some of the limitations, but acknowledge that there are others that have recurred or have emerged during the study.

This study clearly has a length of time as its main limitation resulting in changes in the number of research participants and the research techniques used to obtain the data required to answer my research questions effectively. At the start of the study, I was aware of some challenges in dealing with time and financial constraints. Thus, I knew how crucial it was to quickly get access to my research context and gain trust from the research participants. Although I received assistance from my gatekeepers, getting quick access to my research context, gaining confidence from the ESL lecturers and following the research schedule for data collection in a busy institution like Politeknik Adiwira certainly required a longer time than the 3 months that my sponsor permitted. Doing a case study, however, to an extent, enabled me to manoeuvre and win over the constraints because case studies draw on multiple data collection techniques (Robson, 2003; Creswell, 2007; Punch, 2009; Yin, 2009) to answer my research questions effectively. For example, basing on the fact that classroom observations to gain evidence of changes in ESL lecturers' utilisation of technology after attending Professional Development (PD) 2 and 3 would not be practical to be conducted due to time constraints, I planned to generate the data from participants' journals. However, this did not work due to ESL lecturers' hectic schedule as they did not have time to write accounts on their practice. This technique was to an extent, replaced successfully with Online Group Discussion session via Whatsapp.

8.2 Contributions

This section discusses the main contributions of this research; professional development, conceptual and methodological. It further identifies new research potential and addresses some reflective thoughts.

8.2.1 Contributions to professional development

8.2.1.1 Contributions at a local level

As this study started from a phenomenon that occurs in my workplace, it is therefore essential that it contributes to the workplace itself and the ESL lecturers who took part in it. Without losing the values of this study which emphasises on letting the voices of the participants to be at the front, I believe that there has been a significant contribution to their pedagogical beliefs and practice in terms of development in technological skills and awareness in improving pedagogical understanding, self-confidence and the way they use technologies, understanding of students' new learning needs in ESL and their roles to meet those needs and challenges to use technology in their ESL teaching context. Their changes in actions as a result of a few professional development sessions, whether directly or as a possible result of exploration and collaboration, to a certain extent, had a significant impact in changing their teaching context, such as their students who started to use technology as well. Together with this, I believe that other lecturers whose stories were not featured in the final analysis and report have also developed along the way because although they became "background cases" (Seanwright & Gerring, 2008, p.294) in terms of their role in this thesis, developments that occurred in their awareness and practice over the course of study is of equal significance.

8.2.1.2 Contributions in the broader context

The participants in this study were lecturers working in an ESL context. However, there are lessons that could be learnt not just in the field of ESL, but in the context of professional development (PD) as a whole. The lessons gained from this study go far beyond the boundaries of English language teaching and can be applied across any number of courses and situations. For effective technology implementation to take place in the classroom, the need for collaboration between technology, pedagogy and technological facilities is as relevant for lecturers of primary or secondary schools, as for lecturers teaching at further learning institution like Polytechnic. Numerous aspects of contexts are going to be different in each situation, but the underlying principles of the

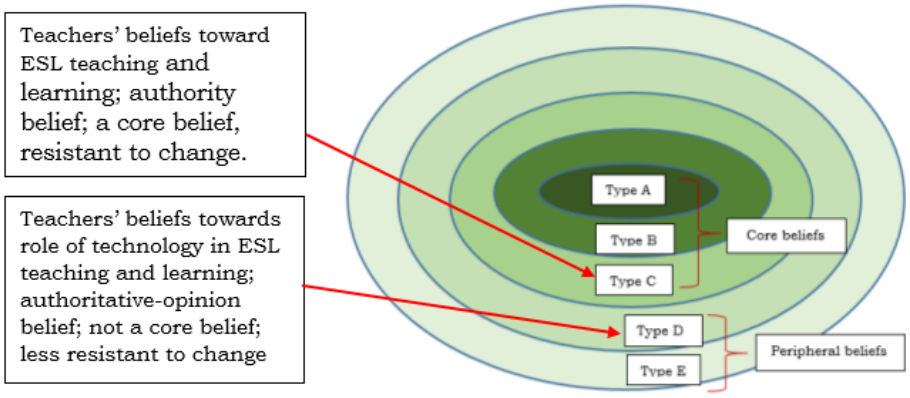
role of professional development, as suggested by the literature appear to be reliable and consistent. There are several lessons that professional development managers can employ from this study if they plan to develop and nurture educators' pedagogical beliefs and actions on the use of technology in their teaching contexts. Firstly, is that to draw on the criteria for effective professional developments that consist of organisation in terms of the type of PD (not only one-off type but ongoing and non-formal), content (both technical and pedagogical aspects), instructors (knowledgeable in both technical and pedagogical aspects), lecturers' different learning needs and availability of technological resources and facility. Next is that to create a community of practice in the workplace, as it can foster and increase exploration, collaboration and more self-directed practices.

8.2.1.3 Conceptual and methodological contributions

The main conceptual and methodological contributions of this study relate to its usage of theoretical frameworks as a conceptual lens for understanding the concept of lecturers' pedagogical beliefs and processes of change that took place. Rokeach's scheme of beliefs (1968) and Guskey's model of lecturer change (1988,2002) served as a basis for establishing a framework of analysis, which enabled me to understand how developments in ESL lecturers' pedagogical beliefs and actions were taking shape around a significant influence of technology adoption, namely professional development.

Firstly, understanding such an abstract construct like beliefs was a challenging task for me, as I found that I need to synthesise all the information I gathered from my reading and came up with a decent explanation and understanding, something that I can present and argue confidently in this study. As Borg (2006) says, lecturer beliefs are elements that are in lecturers' heads and minds, thus cannot be seen or visualised and can only be learnt from lecturers' words and actions. Rokeach's scheme served as a lens that I used in this study as a framework to analyse the participants' pedagogical beliefs; in terms of their origins (core or peripheral) and natures (level of resistance towards change). As an auditory-visual learner myself, while reading difficult texts, I was hoping that an illustration would be included as it is useful to aid my understanding so as to have a better sense of

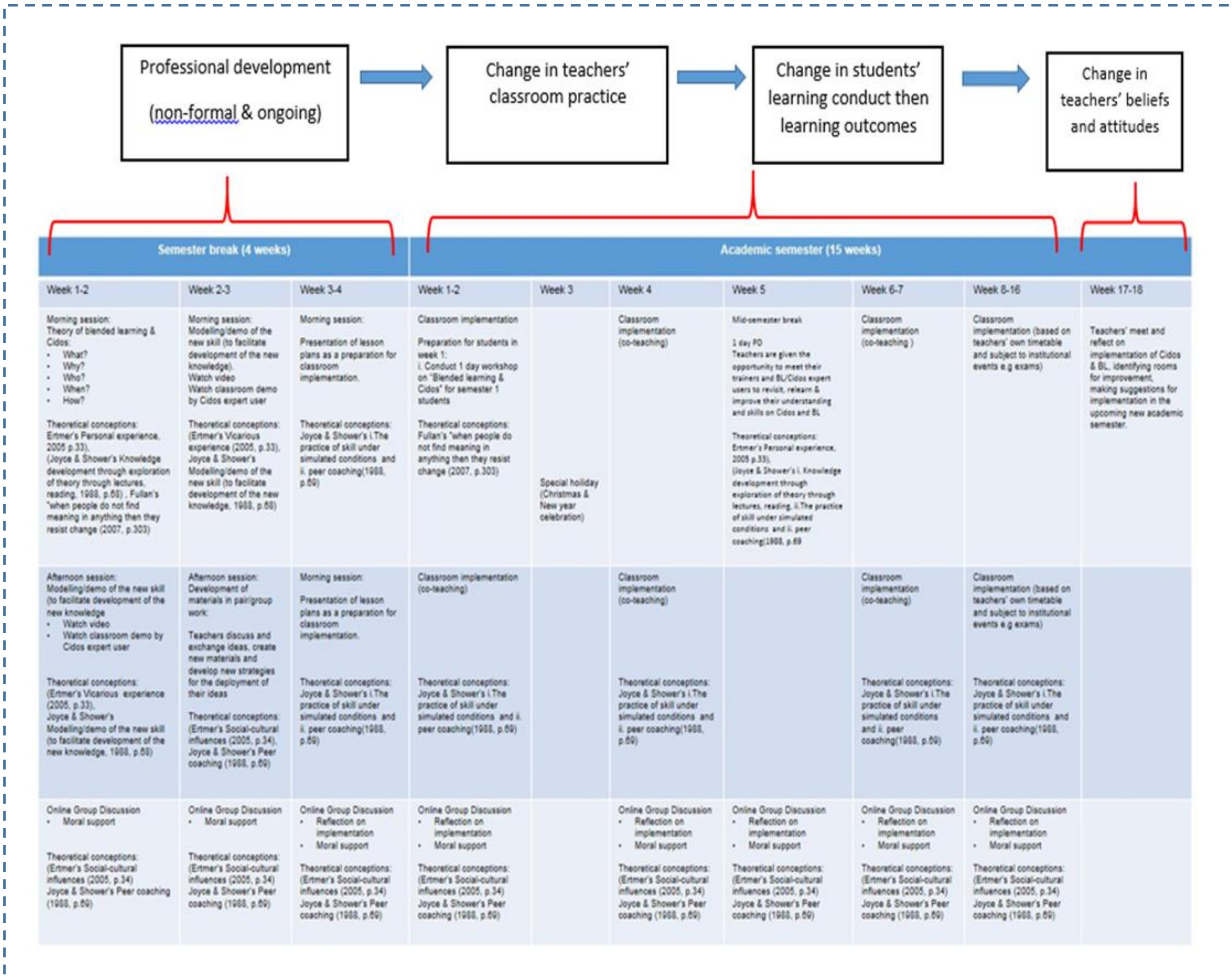
the subject. Initially, my research was not that successful as I could not find an illustration that truly represents Rokeach's scheme. Therefore, I created the illustration below as a visual summary of Rokeach's lengthy explanation, which I found useful to aid my own understanding regarding the nature of lecturers' pedagogical beliefs and at the same time responding to Ertmer's (2005) inquiry as she questioned: "Where do lecturers' beliefs exist in Rokeach's scheme and how are they used to process information related to teaching with technology?"



Next, without the theoretical collaboration of beliefs and structured change processes and professional development, the study may not have captured the progress of developments in-depth and in detail, as it may have covered any type of belief that would be problematic to be defined or unstructured flow of change processes that would be impossible to be analysed. Theoretical suggestions on impactful learning processes for lecturers such as by Joyce and Shower (1986), Ertmer (2005), and Fullan (2007) (I discussed this in chapter 2) fit nicely in Guskey's descriptions of a model of teacher change (1988, 2002) which became the lens I used to answer my research questions.

Rokeach's proposal on beliefs has enabled me to answer my first research question about my research participants' beliefs toward the utilisation of technology in their teaching context. This finding is significant because the knowledge about the type of beliefs that came up from this investigation has allowed me to answer the 2nd research question on how lecturers' beliefs and utilisation of technology were influenced by professional

development sessions they attended. These knowledge has allowed me to develop and come up with a proposed technological innovation professional development framework for ESL lecturers in Adiwira Polytechnic, illustrated in figure 11 below:



Week 1-2	Week 2-3	Week 3-4	Week 1-2	Week 3	Week 4	Week 5	Week 6-7	Week 8-16	Week 17-18
Morning session: Theory of blended learning & Cidos: • What? • Why? • Who? • When? • How? Theoretical conceptions: Ertmer's Personal experience, 2005 p.33), (Joyce & Shower's Knowledge development through exploration of theory through lectures, reading, 1988, p.68) , Fullan's "when people do not find meaning in anything then they resist change (2007, p.303)	Morning session: Modelling/demo of the new skill (to facilitate development of the new knowledge). Watch video Watch classroom demo by Cidos expert user Theoretical conceptions: (Ertmer's Vicarious experience (2005, p.33), Joyce & Shower's Modelling/demo of the new skill (to facilitate development of the new knowledge, 1988, p.68)	Morning session: Presentation of lesson plans as a preparation for classroom implementation. Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)	Classroom implementation Preparation for students in week 1: i. Conduct 1 day workshop on "Blended learning & Cidos" for semester 1 students Theoretical conceptions: Fullan's "when people do not find meaning in anything then they resist change (2007, p.303)	Special holiday (Christmas & New year celebration)	Classroom implementation (co-teaching)	Mid-semester break 1 day PD Teachers are given the opportunity to meet their trainers and BL/Cidos expert users to revisit, relearn & improve their understanding and skills on Cidos and BL Theoretical conceptions: Ertmer's Personal experience, 2005 p.33), (Joyce & Shower's i. Knowledge development through exploration of theory through lectures, reading, ii.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69	Classroom implementation (co-teaching)	Classroom implementation (based on teachers' own timetable and subject to institutional events e.g exams)	Teachers' meet and reflect on implementation of Cidos & BL, identifying rooms for improvement, making suggestions for implementation in the upcoming new academic semester.
Afternoon session: Modelling/demo of the new skill (to facilitate development of the new knowledge • Watch video • Watch classroom demo by Cidos expert user Theoretical conceptions: (Ertmer's Vicarious experience (2005, p.33), Joyce & Shower's Modelling/demo of the new skill (to facilitate development of the new knowledge, 1988, p.68)	Afternoon session: Development of materials in pair/group work: Teachers discuss and exchange ideas, create new materials and develop new strategies for the deployment of their ideas Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34), Joyce & Shower's Peer coaching (1988, p.69)	Morning session: Presentation of lesson plans as a preparation for classroom implementation. Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)	Classroom implementation (co-teaching) Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)		Classroom implementation (co-teaching) Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)		Classroom implementation (co-teaching) Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)	Classroom implementation (based on teachers' own timetable and subject to institutional events e.g exams) Theoretical conceptions: Joyce & Shower's i.The practice of skill under simulated conditions and ii. peer coaching(1988, p.69)	
Online Group Discussion • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)		Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	Online Group Discussion • Reflection on implementation • Moral support Theoretical conceptions: (Ertmer's Social-cultural influences (2005, p.34) Joyce & Shower's Peer coaching (1988, p.69)	

Figure 11: Proposed technological innovation professional development framework for ESL lecturers in Adiwira Polytechnic

8.3 Potential for Further Research

The following defines the limits of this study and suggests new areas for research:
In accordance with the case study approach adopted in this study, the number of participants was limited to two. This was to allow for the in-depth investigation required to yield rich descriptions of lecturers' pedagogical beliefs and practice on the use of technology in their teaching contexts and the processes of change in beliefs and practice due to the influence of professional development. There is scope for continuing research in this area in order to reveal a wider variety of lecturers' pedagogical beliefs and practice with respect to technology use.

Context plays a key role in research on lecturer pedagogical beliefs. This study was conducted within a specific work environment in which a number of factors interacted. Replicating the study within other professional ESL settings will offer broader insights into the issue in question.

A research area which deserves further attention is the role of multiple case studies in examining changes in lecturers' pedagogical beliefs and action in relation to the use of technology in their teaching contexts. Considering the practicalities of handling this type of research and making sense of the data that emerged, the time available for fieldwork was limited to three months. Studies of a longer span will allow for a deeper investigation of the evolving relationship between beliefs and practice, and more likely yield deeper understandings of the shifts in beliefs and actions/practice that occur as a result of on-going professional development, in addition to changes in technology implementation influenced by particular beliefs.

Since the purpose of this study was the investigation of lecturers' pedagogical beliefs about individual technology practice, the focus was primarily on practitioners. Additional research is needed to reveal and explain the relationship between different beliefs about technology and students' learning outcomes, especially as the relationship between lecturer beliefs and student learning still receives little attention.

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Appendices

Appendix A Interview protocol

Thank you for taking time to participate in this interview to talk about lecturers' use of technology in teaching ESL. I'm (name) and I am a doctoral student in the University of Manchester.

You will have looked at the information sheet I sent you about the project and I'd once again like to reassure you that your name will not at any time be associated with your responses. All your responses will be kept completely confidential.

Do you have any questions before we start? Could you confirm that you are happy for this discussion to be recorded?

Technology is a broad concept that can mean a lot of different things. For the purpose of this interview, technology refers to digital technology/technologies. That is, the digital tools we use such as desktop computers, laptops, smartphones, tablets, interactive whiteboards, multimedia laboratories plus the software programmes run on them, often referred to these days as apps.

1. Can you tell me about yourself, your current teaching situation and the sorts of students you teach?

2. Can you tell me why you became a lecturer? Can you tell me about the training you received?

a) Does what you learned on your training course influence how you teach?

b) Did the teaching you received as a child/ student influence how you teach now? How?

c) Are there other things that influence how you teach?

d) Have you been involved in any recent training courses that made you reconsider how you teach? In what ways?

e) Has anything else influenced what you do in the classroom?

f) Is what you did in the classroom similar to how you were taught? Why do you think that is?

g) Do you model your teaching on how you were taught at school/ college? Did you have favourite lecturers?

3. Do you have views on what makes good teaching and learning? Can you describe teaching that you consider would be successful?

4. In your opinion, what makes a good ESL lecturer? How would you recognise one? What characteristics do they have? What teaching methodologies do they use? Would they have to use technology to make them a good lecturer?

5. Can you tell me about the modules that you teach and what do you think of them?

6. What are the challenges you come across when you teach these modules to your students?

a. The students – attitudes/ motivation/ quality

b. The teaching environment

c. Other colleagues

7. Do you use any technology personally, and how do you use it?

Personal computer

- Laptop
- Smart phone
- Tablet
- Internet, etc.

8. Do you feel confident use technology? Do you feel you know all you need to know about it?

9. Do you have access to technology at work, and how do you use it?

a. What technologies do you use? How?

b. Would you like access to other technologies? Which ones? Why?

c. Have you had sufficient training in the use of technology? What more training would you like? What would it be like?

10. What do you think of using technology in your teaching?

11. Can you think of any technology that you think might be useful for your students to learn English?

12. What are the challenges you face/might face to use technology in your teaching?

(Adapted from Bigatel, 2004)

Appendix B Observation protocol

Classroom Observation

Date : _____

Time : _____

Location : _____

Participants : _____

Minutes	Observation	Comments
0-5		
6-10		
11-15		
16-20		
21-25		
26-30		
31-35		
36-40		
41-45		
46-50		
51-55		
56-60		

Appendix C Focus group protocol

Welcome

- Introduce moderator and assistant
- Our topic is ...
- The results will be used for ...
- You were selected because ...

Guidelines

- No right or wrong answers, only differing points of view
- We're tape recording, one person speaking at a time
- We're on a first name basis
- You don't need to agree with others, but you must listen respectfully as others share their views
- Rules for mobile phone - I ask that you turn off your phones. If you cannot and if you must respond to a call, please do so as quietly as possible and rejoin us as quickly as you can.
- My role as moderator will be to guide the discussion
- Talk to each other

Questions

1. Think back over the past few weeks you've participated in this study and tell me your experience using Cidos:

i. your positive experience
ii. your disappointments
iii. What needs improvement?

2. Think back over the past few weeks you've participated in the professional development sessions.

i. Your positive experiences
ii. Your disappointments
iii. What needs improvement?

3. Suppose that you were in charge of Cidos and could make one change that would make the program better. What would you do?

(Adapted from Kruger, 2002)

Appendix D Research Timetable

January 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		Left Manchester	Arrived in Malaysia		1	2
3 Wrote reflections on research activities (Research Journal, RJ)	4	5	6 Prepared for interview (Research Journal, RJ)	7 Met Annabelle (Interview 1, IA1)	8 Analysed interview data	9
10 Prepared for interview (Research Journal, RJ)	11 Met Ella (Interview1, IE1)	12 Analysed interview data	13 Analysed interview data	14 Analysed interview data	15	16
17 Wrote reflections on research activities (Research Journal, RJ)	18 Prepared for observation (Research Journal, RJ)	19 Met Ella (Observation 1, OE1) Made notes and reflections on OE1 (RJ)	20 Analysed observation data (from observation schedule)	21 Met Ella (Interview 2, IE2)	22 Analysed interview data	23
24 Analysed observation data (from observation schedule)	25 Analysed interview data	26 Analysed interview data	27 Analysed interview data	28	29 Explored suitable analytical framework.	30

February 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Explored suitable analytical framework.	2 Explored suitable analytical framework.	3	4 Met Annabelle (Observation 1, OA1)	5 Met Annabelle (Interview 2, IA2)	6
7 Wrote reflections on research activities (Research Journal, RJ)	8 Prepared for observation 2 (Research Journal, RJ)	9 Met Annabelle & Ella (Observation 2, OA2, OE2) Analysed observation data (observation schedule)	10 Met Annabelle (Interview 3, IA3)	11 Met Ella (Interview 3, IE3)	12 Analysed interview data	13
14 Wrote reflections on research activities (Research Journal, RJ)	15 Mid-semester break Analysed interview data	16 Mid-semester break Analysed interview data	17 Mid-semester break Analysed interview data	18 Mid-semester break Analysed interview data	19 Mid-semester break Analysed interview data	20
21 Wrote reflections on research activities (Research Journal, RJ)	22 Analysed interview data	23 Analysed interview data	24 Analysed interview data	25 Explored suitable analytical framework.	26 Explored suitable analytical framework.	27
28	29 Explored suitable analytical framework.					

March 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 Explored suitable analytical framework.	2 Prepared for Online Group Discussion (OGD	3 Prepared for Online Group Discussion (OGD	4 Online Group Discussion via Whatsapp (OGD)	5 Wrote reflections on research activities (Research Journal, RJ)
6 Online Group Discussion via Whatsapp (OGD)	7 Online Group Discussion via Whatsapp (OGD)	8 Online Group Discussion via Whatsapp (OGD)	9 Online Group Discussion via Whatsapp (OGD)	10 Online Group Discussion via Whatsapp (OGD)	11 Online Group Discussion via Whatsapp (OGD)	12 Wrote reflections on research activities (Research Journal, RJ)
13 Online Group Discussion via Whatsapp (OGD)	14 Online Group Discussion via Whatsapp (OGD)	15 Online Group Discussion via Whatsapp (OGD)	16 Online Group Discussion via Whatsapp (OGD)	17 Online Group Discussion via Whatsapp (OGD)	18 Online Group Discussion via Whatsapp (OGD)	19 Wrote reflections on research activities (Research Journal, RJ)
20 Online Group Discussion via Whatsapp (OGD)	21 Online Group Discussion via Whatsapp (OGD)	22 Online Group Discussion via Whatsapp (OGD)	23 Analysed data	24 Prepared for Focus	25 Focus Group	26
27	28 Left Malaysia	29 Arrived in Manchester	30	32		

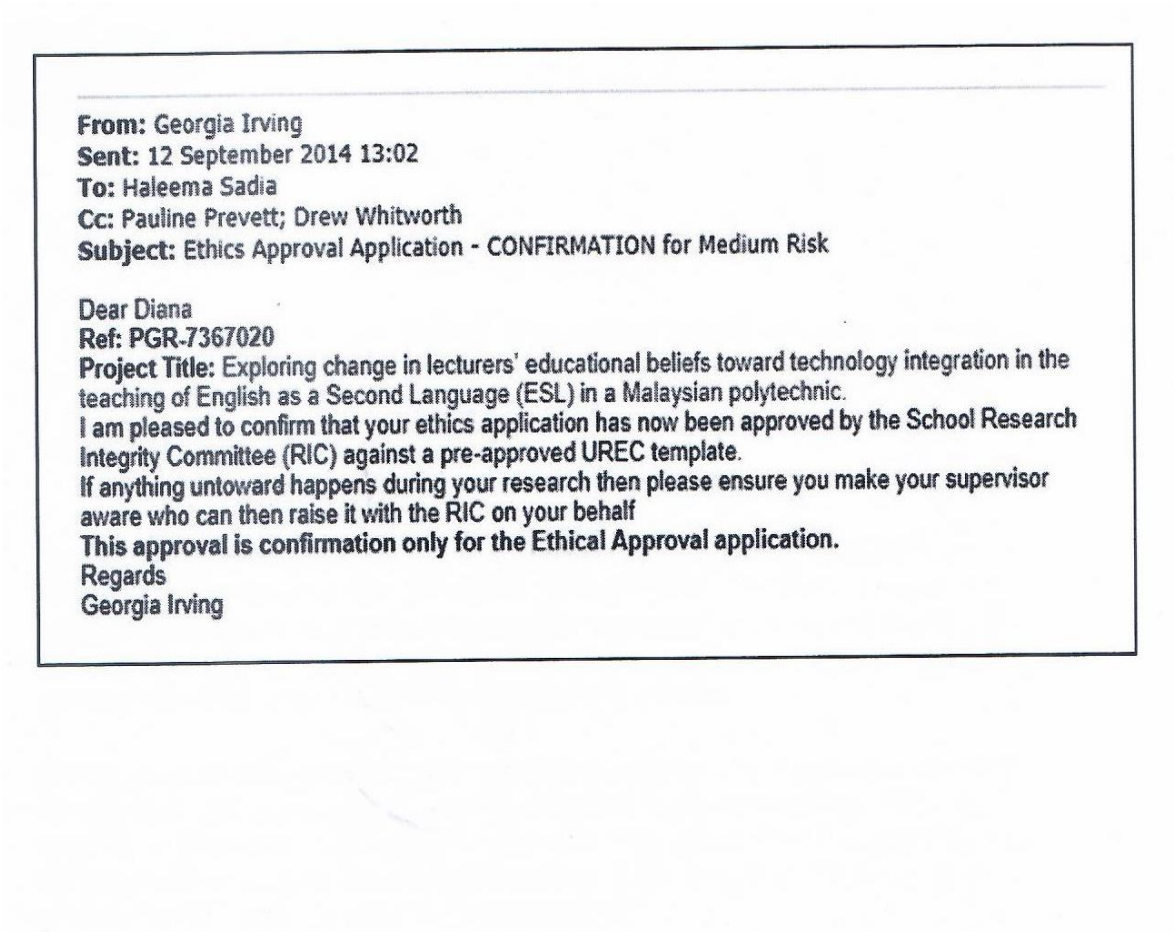
Appendix E Illustration of the research methods of data collection

Summary of data collected during 11 weeks of fieldwork (Jan – March 2015)

No	Research method	Aim(s)	Data form	Frequency	Duration	Follow up using instant messaging/chat software, email etc.
1.	Interviewss (1 participant x 3 sessions)	to explore lecturers' current beliefs and practices in teaching English (ESL,CE) to explore developments in lecturers' beliefs and practice in using technology/Cidos after staff development programmes.	Interview protocol I Audio recording Research journal (reflection)	2 ESL lecturers were interviewed face to face 3 X: After PD1 After observation After PD2	Each interview lasted for about 30-60 minutes.	Multiple instant messages via Whatsapp.
2.	Observations (1 participant x 2 sessions)	to explore lecturers' current and actual practices in teaching English (ESL,CLA), to cross check the data gained in the interviews to explore other influences that shape their beliefs and practices in using technology in their teaching contexts to explore the impact of staff development programmes towards lecturers' beliefs and practices in using technology	Observation schedule Field notes Research journal (reflection)	2 ESL lecturers were observed once, after the interview sessions (Jan-Feb 2015) 1-2 in-service professional development sessions : 2 conducted by English Language Unit, General Studies Department (Feb 2015).	Each observation lasted for about 60 minutes.	Multiple instant messages via Whatsapp.
3.	Focus group interview session	to explore the impact of staff development programmes towards lecturers' beliefs and practices in using technology to investigate lecturers' use of technology	Focus group protocol Audio recording Researcher journal (ferlection)	1 FG session was conducted in week 11 to replace individual interviews which could not be carried out on week 10 and 11 because of several constraints.	60 minutes.	

4.	Online group discussion (OGD)	To explore lecturers' implementation of Cidos in their classrooms	Online conversation	Participants were encouraged to communicate about their experiences on the day they used Cidos	3 weeks	
5.	Research journal	to regularly report and reflect on the progress and process of the research	Field notes	Written after data collection activities, based on field notes taken during the activities.		
6..	Document analysis	to locate available information regarding current implementation of blended learning approach in lecturers' teaching contexts e.g module/course outlines, lecturer's teaching file/record,	Field notes	Subject to the availability of the documents from Jan-April 2015		

Appendix F Research ethics approval



From: Georgia Irving
Sent: 12 September 2014 13:02
To: Haleema Sadia
Cc: Pauline Prevett; Drew Whitworth
Subject: Ethics Approval Application - CONFIRMATION for Medium Risk

Dear Diana
Ref: PGR-7367020
Project Title: Exploring change in lecturers' educational beliefs toward technology integration in the teaching of English as a Second Language (ESL) in a Malaysian polytechnic.
I am pleased to confirm that your ethics application has now been approved by the School Research Integrity Committee (RIC) against a pre-approved UREC template.
If anything untoward happens during your research then please ensure you make your supervisor aware who can then raise it with the RIC on your behalf
This approval is confirmation only for the Ethical Approval application.
Regards
Georgia Irving

Appendix G Participants information sheet

MANCHESTER 1824

The University of Manchester

Title of Research

Exploring change in lecturers' educational beliefs toward technology integration in the teaching of English as a second language (ESL) in a Malaysian polytechnic.

Participant Information Sheet

You are being invited to take part in a research study by a PhD student in Educational Research at The University of Manchester. The study is about supporting teachers to begin to integrate technology in their teaching through the process of coaching and exploring whether shift/change in educational beliefs occurs toward the use of technology in teachers' practice.

Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

Who will conduct the research?

Diana Ahmad Busra, Manchester Institute of Education, Ellen Wilkinson Building, University of Manchester, Oxford Road, Manchester M13 9PL.

Title of the Research

Exploring change in lecturers' educational beliefs toward technology integration in the teaching of English as a second language (ESL) in a Malaysian polytechnic.

What is the aim of the research?

In this study, the researcher aims to work along with a group of ESL lecturers (4-6 people) in a polytechnic in Malaysia to support their practice and to begin to integrate technology in their teaching, and to explore whether shift/change in educational beliefs occur through the process of coaching using TPACK as a framework for analysis.

Why have I been chosen?

You have been chosen to take part in the study as you are a polytechnic lecturer teaching English as a second language (ESL) modules/subjects.

What would I be asked to do if I took part?

This research will be conducted over a period of three months. Firstly, I will conduct an online interview via Skype to get information about your educational beliefs and current practices.

In weeks 1 and 2, I will begin to observe your classes where I will begin to build a picture of your practice including your use of technology (if there is any) and I will also form the group for the coaching sessions.

In weeks 3 and 4, you will take part in a coaching session where I will act as a coach or facilitator to support you to develop your Technological, Pedagogical and Content Knowledge (TPACK) in your current practice.

In weeks 4, 5 and 6, you will design lessons that integrate the use of suitable technology for your own teaching context and then teach your classes using the chosen technology.

In weeks 7 and 8, you will take part in the second coaching session and the content of the session will be based on your experience in weeks 4, 5 and 6.

In weeks 9, 10 and 11, you will further design your lessons and then continue teaching using technology.

In the final week (week 12), I will conduct a de-briefing session to allow participants to reflect and give feedback on their experience using technology in teaching. Interviews will be conducted in week 6 and 12 to explore if change in participants experiences and beliefs toward technology integration in the teaching and learning of ESL contexts occur after the development of their TPACK and after practicing the skills for six and twelve weeks.

What happens to the data collected?

The data which will be collected from the interviews, observation, participant journals and online discussion will be stored securely in a locked drawer, transcribed and analysed by the researcher and then will be destroyed/deleted.

How is confidentiality maintained?

To ensure confidentiality, I will substitute participants' names with pseudonyms when reporting the research finding. All the data and data analysis materials will be kept securely (protected pen drives) in encrypted computers, and no one will have access to the data generated from the study. The analysis of the data will take place in a private study area, so that no one will be able to hear the interview or access the data collected.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason [and without detriment to yourself – *this statement applies only in circumstances where the researcher provides some kind of service to the potential participant or their child/dependant adult or is their manager – please ensure that you adapt the language here to suit the participant group you hope to recruit]*

Will I be paid for participating in the research?

No payment will be made to participants.

What is the duration of the research?

The duration of the data collection is 12 weeks (3 months)

Where will the research be conducted?

The research will be conducted in a polytechnic in Malaysia.

Will the outcomes of the research be published?

The outcomes of the research may be published in academic journals, conference proceedings and in the form of PhD thesis.

Contact for further information

Please contact me by email: diana.AhmadBusra@postgrad.manchester.ac.uk or you can contact my supervisor, Dr. Gary Motteram, at The University of Manchester by email: gary.motteram@manchester.ac.uk

What if something goes wrong?

If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Practice and Governance Co-ordinator by either writing to 'The Research Practice and Governance Co-ordinator, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 9PL', by emailing: Research-Governance@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093

Appendix H Participants consent form

MANCHESTER 1824

The University of Manchester

Adapt as necessary for your study and participant group

Study Title

Exploring change in lecturers' educational beliefs toward technology integration in the teaching of English as a second language (ESL) in a Malaysian polytechnic.

CONSENT FORM

If you are happy to participate please complete and sign the consent form below

	Please Initial Box
1. I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.	☐
2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.	☐
3. I understand that the interviews will be audio/video-recorded	☐
4. I agree to the use of anonymous quotes	☐
6. I agree that any data collected may be passed to other researchers	☐
5. I agree to my GP being informed of my participation in the study	☐
6. I agree that any data collected may be passed to other researchers	☐
7. I agree that any data collected may be published in anonymous form in academic books or journals.	☐

I agree to take part in the above project

Name of participant	Date	Signature
Name of person taking consent	Date	Signature

Appendix I Report of piloting of study

Piloting:

i. A series of mini pilot studies in the form of assignments (MSc Educational Research) and an exploratory online pilot study have contributed to my journey in trying to understand the phenomena under study here. The assignments have developed my skills in conducting both quantitative and qualitative research using a variety of data collection methodologies (semi-structured questionnaires, interviews & online observation), data analysis methodologies: SPSS – descriptive and inferential statistics and applied thematic approaches, the issues of ethical consideration, trustworthiness, reliability and validity of the research.

ii. An exploratory pilot study was conducted in Jan-Feb 2014 involving one participant from a polytechnic in Malaysia with the aim to explore 'What happens to an ESL lecturer's beliefs and practice if I facilitate her to develop and create teaching materials using certain technologies that she can integrate into her teaching?'. An open-ended questionnaire (sent via email) was used to explore her perceptions towards the use of technology in her teaching context. The positive responses she gave about technology integration in teaching however, were not evident in her actual practice as a lecturer, which was revealed in several online discussion sessions conducted via Facebook. This taught me not to rely on data which was collected using one method and the importance of triangulation. The next stage in the exploratory study was for her to work with me to create a Virtual Learning Environment (VLE) using Google Sites as a platform and to create an online discussion platform using the Facebook Group application. Facilitating a lecturer to create her VLE and online discussion platforms from afar proved to be very challenging due to the distance, time difference, her limited knowledge of using technology etc. However, these experiences led me to the discovery of two significant frameworks/models that I am now using in this research i.e. TPACK (Mishra & Koehler, 2006) and the model of effective coaching (Joyce & Showers, 1995).

The experience I gained as an online facilitator is useful as a guidance for me to act as a researcher, coach or facilitator to the actual participants of the research. My attempt to analysis the data (open-ended questionnaire, online discussions and online observation) using an 'applied thematic approach' (Guest et. al 2012) and discourse analysis was challenging too as initially I did not have any framework that I could use to frame my study and as an analytical framework to analyse the data. Only after discovering TPACK was I able to do some analysis for a sample of data that I analysed for the pilot study. To conclude, my previous MSc (Educational Research) assignments which I completed last year and the more recent pilot study have contributed to my understanding and my experience in generating data by using interview, online observation and online discussion and then analysing the data using applied thematic approach.

iii. The piloting of the semi-structured interview schedule was an on-going process where I continuously discussed its design with my supervisor and my coursemates. This is crucial as it allows me to gather feedback, comments and advice about which wording that sounds ambiguous and the clarity of instructions and questions (Dornyei, 2003 p.63). After designing the schedule, I emailed it to three coursemates who then gave me some useful comments and suggestions. The piloting revealed that simple mistakes such as typographical errors still occurred and even the slightest detail can lead to confusion, resulting in invalid responses.