PD 3.0: Educational Technology in Language Teaching at the tertiary level in Hong Kong, perceptions and implications for future adoption

Submitted by

Lucas Mathias Alfred Kohnke

to

The University of Exeter

for the degree of

Doctor of Education in TESOL

Submission date

November 2018

Signature: …………………………

ACKNOWLEDGEMENT

I have benefited immensely from the help and support of many people in undertaking this thesis.

I wish to first and foremost thank my supervisor Dr. Li Li and my co-supervisor Dr. Christopher Boyle for their professionalism and encouragement. Their insightful comments and constant guidance in the writing of this thesis has been of the utmost value in keeping me focused. Their dedication to students and to scholarly excellence has been my source of inspiration.

This journey would not have been possible without the support of my colleagues and friends who have kept me motivated and read several versions throughout the process, providing invaluable comments and humour in times of need. I would especially like to express my gratitude to Adam Leskis and Jannifer Man for their help, serving as a springboard, and always willing to listen to my ideas. Without their support and assistance, I could not have completed the work represented here.

I also owe thanks to the teachers at the numerous tertiary institutions in Hong Kong, who without hesitation gave their valuable time and honest responses regarding their experience, which form the core of this study. If it was not for them, this thesis could not have been written.

Thanks are also due to members of the Faculty, my friends, and my fellow post-graduate students in the EdD TESOL programme.

ABSTRACT

This exploratory, interpretive study investigates the current state of professional development involving Information Communication Technology in tertiary educational institutions in Hong Kong. The study aims to explore tertiary teachers' engagement as well as attitudes and beliefs regarding the usefulness of these professional development activities. In recent years, the Hong Kong government has invested considerably in the educational sector at the tertiary level on information technology communication specific skills and technology. The stated aim of this increased emphasis is to better prepare students and teachers to learn and teach in the 21st century, and to increase the effectiveness of the engagement with the course material. Thus, there is a strong demand for today's teachers to cope with integrating information communication technology in their classrooms. The study employed data collection in two distinct phases, a questionnaire (n=58) which was analysed using descriptive statistics, followed by 12 semi-structured interviews analysed using thematic analysis. The original contribution of this study is new insight into PD needs in ICT skills, focusing on the context of the Hong Kong tertiary educational sector. The findings offer a richer and deepened understanding of tertiary teachers' engagement with professional development involving Information Communication Technology. They generally exhibit a preference for informal, collaborative, interpersonal types of professional development over the more formal, institutionally mandated, isolated forms. Moreover, the findings illustrate that teachers are largely enthusiastic to participate in professional development activities, though there exists a misalignment between teachers' own professional development goals and those of their host institutions. Specifically, the lack of incorporation of viewpoints and direction from teachers regarding what type of professional development activities are better suited to enhance their teaching. The results suggest ways that professional development of tertiary teachers in Hong Kong might be more closely aligned with teachers' own goals and preferences while still serving the educational goals of the institutions.

TABLE OF CONTENTS

Chapter 1: Introduction

Chapter 2: Professional Context and Relevance

Chapter 3: Literature Review

Chapter 4: Methodology

Chapter 7: Discussion

Chapter 8

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS/ABBREVIATIONS

ICT	Information Communication Technology
PD	Professional Development
HK	Hong Kong
HKSAR	Hong Kong Special Administrative Region Government
ELC	English Language Centre
BOT	Becoming an Online Teacher
EDC	Educational Development Centre
TESOL	Teaching English to Speakers of Other Languages

CHAPTER 1: INTRODUCTION

1.1 Introduction

This introductory chapter presents the current state of professional development based on Information Communication Technology as an intriguing problem to be investigated, and briefly lays out several of the considerations upon which it was deemed necessary to raise a comprehensive inquiry. This professional development is specifically situated within an English language teaching context and localised in Hong Kong, so the focus will be limited by those constraints. Furthermore, the chapter presents the fundamental research questions intended to guide the investigation, as well as definitions of important research terms to be used. Finally, the chapter closes with a high-level view of the thesis as a whole.

1.2 Rationale

As in many parts of the world, integration of Information Communication Technology (hereafter ICT) in education in Hong Kong has proven an inexorable development, and English language teachers are therefore compelled, both for personal and professional reasons, to take a central role as stakeholders and practitioners in mediating the realisation of this clear trend, as exemplified in the work of Stockwell, (2018), Son (2018), Tondeur, Van Braak Ertmer and Ottenbreit-Leftwich (2017) and Prestridge (2017). In English language teaching, ICT is today incorporated generally by most language teachers and learners (Healey, 2018), and teachers' pedagogical abilities with ICT tools and their skills form a fundamental aspect of effective integration of ICT in their classrooms to teach the English language (Hubbard, 2018; Son, 2014).

One of the primary means of engaging with such a developing trend is through involving teachers in the process of Professional Development (hereafter PD). Such a focus on continuous PD, especially in the area of ICT skills, is integrated in most educational

contexts with a belief that it is a catalyst of change that can inspire transformation, critical thinking and student-centred learning, as indicated in the findings of Roblyer and Doering (2010) and Kessler & Hubbard (2018) . Another more specific and important aspect of ICT discussed in the literature is that teachers' utilisation of technology to its fullest potential is largely dependent upon their ability to exploit it, as was argued by Cabanatan (2003) and Hu and McGrath (2011), as well as the existing skill base and disposition with which they approach the incorporation of technology at a curricular level (Bitner & Bitner, 2002; Jääskelä & Häkkinen & Rasku-Puttonen, 2017; Erstad & Voogt, 2018).

Thus, it makes sense to investigate how Teaching English to Speakers of Other Languages English (TESOL) teachers in Hong Kong are able to use PD as an avenue towards incorporating this trend in their classroom teaching. We are particularly interested in their ability to employ their technical competence in the service of pedagogic goals.

ICT has become an integral element in the delivery of learning and teaching in all tertiary institutions in Hong Kong (Hyland & Wong, 2013). This has become largely accepted within education, and continues to evolve as English language teachers both aspire and struggle to embrace it (Healey, 2018; Stockwell, 2018; Knobel & Kalman, 2016). In any case, these developments are touted as the means to effect learning that is both efficient and effective (Wang & Towey, 2012) and capitalise on the social and participatory nature of learning in teaching English.

It is in the context of this continuing deficit of achievement that PD has become an increasingly researched area (Darling-Hammond et al., 2017; Freeman, 2016), as updating teachers' knowledge and skills to continuously be effective with new pedagogies in the classroom is often noted as one of the most significant features affecting student performance (Scott, 2015; Strong, 2015). Therefore, it is problematic that ICT has not been more successfully integrated into the current approach to PD,

especially at the tertiary level in Hong Kong and in the Asian context where integration of ICT remains a major challenge (Zhu, 2015).

As can be seen around Asia, Ministries of Education are pushing for the integrating ICT into their education systems (Chan & Foong-Man, 2002; Kusano, et al., 2013) as it has been demonstrated to afford multiple learning possibilities, which demonstrate the capacity for providing beneficial learning opportunities when effectively exploited (Ra, Chin, & Lim, 2016). This has led to a multitude of worldwide calls for educators to incorporate ICT (Baek, Jung, & Kim, 2008; Farr & Murray, 2016; Tan, Cheah, Chen, & Choy, 2017), and there is a clear and growing need for technology-focused professional development (Curwood, 2014) as teachers are faced by potentially new learning environments including but not limited to hybrid, blended, flipped, synchronous and asynchronous (Healey, 2011). Moreover, research has found that the majority of professional development targeting this is "woefully inadequate" (Borko, 2004; McChesney & Aldridge, 2018), and PD offerings vary considerably (Opfer & Pedder, 2011; Ling & Mackenzie, 2015; Bowe & Gore, 2016), and teachers are still demonstrating insufficient ICT-utilisation after PD (Tondeur et al., 2016).

Further, there is clearly a role to play for PD in terms of helping these teachers to fully exploit these digital tools in a way which is both effective and efficient, and as such this PD forms part of the necessary experience of teachers at a global university to meet the needs of 21st century learners (Ertmer & Ottenbreit-Leftwich, 2010; Prestridge, 2012). However, teachers predominantly use ICT in a cursory manner, for organisational tasks, such as in lesson preparation and/or during lesson delivery, though this overwhelmingly takes shape following a traditional instructional model (Lawless & Pellegrino, 2007; Prestridge, 2017). Moreover, most ICT PD is mainly focused on organisation and presentation of information (Graham, Tripp & Wentworth, 2009) rather than teaching strategies, techniques or approaches required to deliver instruction facilitating authentic learning (Ryan & Bagley, 2015; Albion et al., 2015).

Throughout the course of my six years of teaching at my institution, I have acquired extensive experience at the intersection of teaching and ICT, serving on the E-Learning Sub-committee. In this capacity, I have noticed two very interesting trends regarding ICT: 1) The students seem to be more and more comfortable with it, and 2) The faculty seem to be more and more frustrated with how to include it in their teaching, particularly various learning management systems. Unfortunately, the ability of my colleagues to exploit this tool is limited by their knowledge and skill base in the area of ICT, which aligns with findings by different authors (Bitner & Bitner, 2002; Cabanatan, 2003; Livingstone, 2012). This has the understandable consequence of teachers considering ICT as an impediment to be endured rather than an instrument to be exploited.

This is precisely the opportunity that I currently see in my own institution in Hong Kong. The teachers there have access to various Learning Management Systems, Blackboard and Moodle, which are highly extensible, customisable and enable teachers to deploy and online environment for students which is engaging, user-friendly and interactive. There is a shared optimism about the potential of Blackboard and Moodle in providing deep learning instead of surface learning and the potential it holds for education (Ham, 2010). With a firm grounding in the current discussion of this issue in the literature, which will be expanded upon below (Chapter 3 Literature Review), my central aim is to investigate teachers' use of technology in the classroom, and specifically how the current policies of PD are helping them to better use it.

The aim of the present research, therefore, is to examine in greater depth the relationship that professional TESOL teachers have with ICT in the classroom, as well as the PD practices impacting it.

1.3   Research questions

With a grounding in the discussion existing in the literature, it is my purpose to gain a richer understanding of how teachers actually participate in PD activities centred around ICT. In facilitating this, universities' PD policy can have an immense influence on the performance of its teachers, as it directly influences how well teachers keep current with the latest trends within their field.

With this aim in mind, this study addresses the following questions:

1. What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?
2. What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?
3. What are these English teachers' attitudes and beliefs about integrating ICT in their teaching?
4. To what extent do these English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in teaching?

1.4   Definitions of research terms

In this section, I define the main terms used in the study:

a) Professional Development
   For the purpose of this research study, Professional Development will be defined as "formal and informal support and activities that are designed to help teachers develop as professionals" (Coldwell, 2016, pg. 189).

b) Information Communication Technology

For the purpose of this research study, Information Communication Technology will be defined as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information" (Blurton, 2002).

c) Self-concept / identity

For the purpose of this research study, self-concept is defined according to Ramy (1943) as what a person believes about himself (cited in Purkey, 1988).

d) Self-efficacy

For the purpose of this research study, self-efficacy refers to an individual's belief in his or her capability "to organize and execute the course of action required to manage prospective situations" (Bandura, 1997, p.2).

e) Professionalism

For the purpose of this research study, professionalism will be defined as "ongoing, multidimensional in nature and includes a combination of discipline=based knowledge and ethical awareness; and requires reflective, responsive, and context-specific practice" (Liu & Berger, 2015, p.3)

f) Professionalisation

For the purpose of this research study, professionalisation will be defined as the externally mediated process of "relating to the authority and status of the [teaching] profession" (Englund, 1996, p. 76).

The above definitions "fit" the researcher's understanding of the terms in this particular context as well as the study's objectives.

1.5   Overview of the thesis

In sum, the thesis will be composed of eight chapters. The present chapter presents a brief overview of the research area and research questions, as well as giving an indication of the need for further research to address the current gaps in PD focused on ICT. In particular, **Chapter One** highlights the growing prevalence of technology in society in general and education specifically, as well as the shortcomings with current approaches towards integrating ICT into classroom environments in effective ways. Moreover, the chapter briefly introduces the overarching significance of the study, the research questions guiding it, relevant terms and their definitions, and the basic contents of the thesis.

In **Chapter Two**, the professional context of the study will be presented with an aim of informing the theoretical discussion with teacher and student realities regarding these issues. The chapter opens with the cultural context of the universities in Hong Kong, with particular emphasis on how it affects the issues of both PD and ICT. To conclude the chapter, there is an overview of the available ICT facilities at tertiary institutions, such as smartboards and Wi-Fi connections, as well as a short discussion of the available funding opportunities for staff. Specifically, the deficit between these opportunities and the teachers' ability to exploit them is highlighted.

Following that, **Chapter Three** seeks to outline the current situation as viewed through the lens of the extent body of literature on issues surrounding ICT and PD. As such, it commences with a presentation of frameworks from which PD has been discussed in the literature, as well as investigates some of the implications of using these as paradigms through which to undertake the discussion. Following that is a more in-depth examination of existing research along two main lines relevant to my research questions: teachers and professional development, and teachers and ICT. The former theme will be investigated with an eye towards highlighting current practice of teachers engaging in PD focused on ICT, as well as taking a closer look at how teachers feel about this PD, in particular, that which is focused on ICT.

Subsequently, the second theme will be elaborated upon, primarily in the interest of identifying where the rubber meets the road, so to speak. The issue of teachers actually incorporating ICT in their teaching, and specifically their attitudes and beliefs surrounding this, will be unpacked. Finally, a thorough investigation of teachers' perceptions and expectations regarding the effectiveness of PD activities in enhancing their own ability to incorporate ICT in the classroom will bring the investigation of these two primary themes to a close. Throughout the literature review, an effort is made to emphasise the gaps in existing research, such that the present study may make a strong case for contribution and impact.

Chapter Four goes into detail regarding the methodological considerations pertinent to the present research. It clearly outlines the rationale and ontological/epistemological considerations, as well as grounds the particular methodological approach in the interpretivist tradition. Principled grounds for the data collection approaches and participant sampling will be discussed in detail, emphasising the design of the questionnaire and interview procedures in particular. Of special interest in this section is the method of data analysis, and a sample of the coding scheme will be presented to demonstrate the specific approach in the present study. The formation of the initial thematic groupings will be discussed, as well as the route through these initial themes through to the final major themes and sub-themes. At the end of the chapter, several practical facets of the methodology will be examined in turn; namely, questions of validity, criteria for demonstration of reliability and ethical issues surrounding informed consent of the participants.

The analysis of the research questionnaire results is presented in **Chapter Five**, and this forms the basis of subsequent discussion. This chapter presents results and findings from the questionnaire conducted in the phase 1 of the study. It opens with a brief overview of the analysis methods and then turns to a presentation of the quantitative results. Addressed in turn, each research question yields a breakdown of results per sub-question in the questionnaire, alongside the statistical analyses of these results. The outcome of these analyses are intended as a grounding for the discussion

of the qualitative results found in the subsequent chapter on the semi-structured interviews. The organisation of the section follows that of the four research questions, and the data within each question are discussed in turn.

Following the previous analysis, **Chapter Six** turns towards the qualitative data obtained in the course of conducting in-person interviews with the research participants. The chapter deals exclusively with less discrete data, and as such serves as a compliment to the statistical rigor of the previous chapter. It commences with a rationale for its structure, and then immediately turns to a discussion of the findings, as well as the implications for future policies and procedures to address the same. As introduced in Chapter Four, the particular sub-themes emerging from the individual research questions are highlighted and discussed in detail, and where appropriate, selected quotations from the interviews are presented to support the analysis.

Subsequently, **Chapter Seven** serves as a discussion of the key findings and highlights particular areas of convergence, both in the trends from the questionnaires and the themes from the interviews. There is also an exploration of the ways in which PD in particular is situated within the TESOL profession and my experience of it as a teacher in Hong Kong. Further, this chapter serves as a bridge between the research itself and the wider implications for practising teachers. Throughout, particular attention is paid to the subjective experience of the teachers themselves, as the necessity of taking this approach is of paramount importance in this study's interpretivist stance. Care is taken not to editorialise, though clear directions for improvement are of necessity present in the data. The ramifications of these are then presented in the final chapter.

Lastly, **Chapter Eight** closes the thesis with concluding comments as well as a discussion of limitations and considerations for future research. Key ideas from the thesis are summarised, and recommendations are presented in turn. Finally, directions for future research are suggested, and the researcher provides some closing reflection and personal comments.

CHAPTER 2: PROFESSIONAL CONTEXT AND RELEVANCE

2.1   Introduction

This chapter presents a summary of information relating to the educational background of the students and teachers in Hong Kong, as well as how their experiences are being shaped by relevant government policies. Understanding the professional and institutional context of the study helps to analyze the existing gaps, and highlights issues associated with teachers' professional development needs at the tertiary level in Hong Kong. The chapter begins by touching on the nature of the compulsory English education at the tertiary level in Hong Kong, as well as the investment in ICT tools made by both institutions and the government. Further, the personal experience of the researcher is presented, as it is a unique avenue through which to identify and examine the particular issues at play in the local HK context. As an overall effort, this chapter serves to ground the theoretical discussions in the following chapters in the lived reality of the study participants.

2.2   Hong Kong context

The Hong Kong Special Administrative Region is an exceedingly urbanised and modern city, with a population of over 7 million. Its Higher Education (HE) system was established during the colonial rule of Britain and has over time been transformed from an elite system to an open one with diverse categories of HE learning opportunities (Mok & Chan, 2016). The expansion of the HE in Hong Kong continues as the Hong Kong Special Administrative Region government (HKSAR) aims to establish Hong Kong as a centre for students within the region as well as a centre of workers with talents and skills required by business (Lai & Maclean, 2014). In alignment with these goals, language education is seen as an important opportunity for employability and advancement (Gorksi & Clark, 2002). This is in line with the HKSAR understanding of the significance of HE to advance and maintain Hong Kong's international

competitiveness. As part of transforming the HE sector to a mass one, the major development trend in the Greater China region (China, Hong Kong, and Taiwan) is the quest for world-class universities, increase in private funding, higher overall outputs of HE and raised standards for academic quality.

2.3   Government policy

In recent years, the Hong Kong government has invested considerably in the educational sector, and an increasing subset of this investment has been focused on ICT-specific skills and technology at the primary, secondary and tertiary levels (Legislative Council, 2014), conducted under the umbrella of preparing students and teachers to learn and teach in the 21st century (University Grant Committee, 2014) and to increase the effectiveness of the delivery of the course material. Similar results have been obtained from studies in The United States by Ertmer and Ottenbreit-Leftwich (2010).

Additionally, the government has signaled interest via recent moves towards the implementation of policies to promote the use of technology in many different professions, and specifically in teaching and learning at the tertiary level (Hyland & Wong, 2013). There are currently 20 universities affected by these policies in Hong Kong, and at present most of the policies related to PD are designed and carried out in a very top-down, hierarchical manner.

Another government publication, the University Grant Committee Report on Higher Education in Hong Kong (2016) stresses the importance of technological development and education in using new technological skills for staff. Accordingly, the Hong Kong government has invested, and continues to invest, in various policies and strategies for integrating ICT into its education systems (UGC, 2016) This trend is clearly not a passing fad, and should be expected to persist for the foreseeable future. This policy demand for ICT's major role in learning, teaching and incorporation of digital pedagogies is "controversial and unresolved" which has been found in similar context

and studies (Davison, 2005, p. 1). Moreover, the context/culture in which teachers work often constraints or limits individual effort (Ertmer & Ottenbreit-Leftwich, 2013; Almerich, Orellena, Suárez-Rodríguez, & Díaz-García, 2016).

As mentioned, the professionalisation of education in Hong Kong has consisted of top-down initiatives in which the government earmarked grants to Faculties of Education at Hong Kong universities and the Institute of Education to educate and train English teachers to combat TESOL being perceived as a weak teaching profession (Morris, 2008). This reflects the notion that the vital components needed in creation of professional teachers, and therefore necessarily in affecting the learning outcomes of students, are the knowledge base, technical skills, and wider professional values (Liu & Berger, 2015). Hence, the Hong Kong government has attempted to externally redefine teacher professionalism by imposing policies with the aim of establishing a group of teachers possessing fundamentally different knowledge, skills and values. This has been especially prevalent in the past and continues to be so, in large part as a response by the government to concerns articulated in the business community regarding the English proficiency of graduates, as well as complaints from the general public about the poor quality of the teachers (Law, 2003).

Notable in this context is the overt university policy of assessing teacher quality. Currently, one aspect of this is done by administering student faculty evaluations to measure students' satisfaction with the teacher and course, including the use of ICT in teaching. The university can point to the average score relating to teaching and measure the teacher as unsatisfactory, satisfactory, very satisfactory or excellent. There is a growing disconnect, however, between the stated goals of the course syllabus and teacher performance and the ways in which they are achieved. Teachers are uncomfortable in trying out new teaching methods and techniques as their student evaluation is tied to contract renewal and any salary increases; however. for annual appraisal they are required to show they have done so. It is simply untenable that the old models of teacher training are maintained where teachers continue to not develop at

the expense of true professional growth in the interest of those whom we instruct. This is the space into which calls for a more humanised PD policy are ready to be received. This indicates that the PD policy should take active steps to move toward a more collaborative mode of PD regarding teaching and approach to pedagogy (Hyland & Wong, 2013), as then PD is more likely to result in successful change (Fullan, 1991). This is an important aspect as success in taking risks, as well as trying out and implementing new teaching strategies, requires a frame of mind incorporating a positive view of the value of ICT (Thurlings, Evers, & Vermeulen, 2015).

2.4 Institutional environment as exemplified at the Hong Kong Polytechnic University

This university is the largest public university in Hong Kong, and while each of the surrounding institutions differ in particular courses and syllabi, they all share a similar organisational structure in terms of faculties, departments and student body.

University education in Hong Kong involves compulsory English courses of at least 3-6 credit hours in addition to discipline-specific English courses for all students. In terms of the classrooms these students study English in, they are all outfitted with equipment such as smartboards, document cameras, APPLE TV, Mobile Computer on Wheels (MoCoWs), and multiple screens, and as such are ideally equipped to make use of the full capabilities of ICT during instruction. This is part of a new strategy to better meet today's students' needs where they may bring their own devices (tablets, smartphones, laptops) and connect directly to the local display for work group collaboration and presentation, intended to encourage authentic English language learning.   The teachers themselves receive extensive ongoing professional development training, both in methodology, and in ICT specifically, as mentioned above.

The English Language Centre (ELC) at Hong Kong Polytechnic University consists of approximately 100 teachers of varied rank (instructor, lecturer, teaching fellow, senior

teaching fellow, senior lecturer, assistant professor) who are encouraged to participate in continuing PD with a yearly allocation (per academic rank) of PD funds.

In terms of ICT usage in and outside of the classroom, teachers are required to incorporate independent learning using Moodle, Blackboard, Canvas and various other ICT tools for the equivalent of approximately 30 hours per course/semester, yet most teachers lack this training, for which they are necessarily required to have a certain level of ICT skills/knowledge to effectively utilise discussion boards, wikis, or polling in a pedagogically effective manner. This has encountered resistance from older as well as recently appointed teachers at the university, some of whom are not fluent users of technology in and outside of their classrooms. These so-called "second-order" barriers (Ertmer, 2005) to teachers' ability to use digital tools in the classroom are not something that is exclusive to the ELC. Further, Watson (2006) discovered there still exists a disparity among teachers in favour of using technologies, and this could depend on teachers' pedagogical familiarity with the IT learning environment (Almerich et al., 2016).

Additionally, with the adoption of the new strategic plans by all the major universities in Hong Kong with a push to move parts of subjects online the pedagogical nature of the courses has changed. From previously independent learning in addition to the mandated face-to-face sessions to in actuality replacing the face-to-face sessions with university developed Massive Open Online Courses (MOOC) and Small Private Online Course (SPOC) and where teachers are required to integrate them in their courses as they were originally part of the subject to replace valuable face-to-face time.

This in itself is slightly problematic as teachers feel that English language teaching good practice is sacrificed to the hype of technologies and cost-cutting. Teachers are unable to take into account established subject learning outcomes before deciding on the technology to incorporate or replace class time. Thus, from the teacher's perspective the successful integration of technology has come under pressure from two areas:

universities' effort to better reach today's students in the digital world and universities' attempts to scale back face-to-face time in the classroom.

2.5   Forms of institutional professional development

To facilitate the pedagogical training of its teachers, each university has established an Educational Development Centre (albeit differently named at some universities) committed to the PD of the institution's teachers. One of the aims of the EDC is to "promote and support blended learning through the use of web-based and other educational technologies to enhance student learning" (EDC Website). EDC offers regular weekly workshop and training on topics considered valuable to teachers from the university's standpoint. However, as teachers come from every faculty on campus to attend these sessions, the workshops are more of a catch all and teachers often have difficulties understanding how this will relate to their own teaching. Many teachers seems to only attend these sessions to be able to tick a box on the annual performance criteria.

2.5.1   Funding

Teachers are expected to engage in action research, as well as attend or present at regional/international conferences. This is encouraged through annual allocation of funds from the department's line budget. Financial incentives are also made available to attend short courses, and additional funds will be made available if teachers publish their articles in peer reviewed journals.

2.5.2   Professional development days

Departments have an annual day of meetings presented as a "retreat" where teachers attend in-house development workshops, and seminars for an entire day to share ideas, experience and expertise. These can tend towards formalities for management without any real sense of purpose or assessment of measurable objectives.

2.5.3 Professional development evaluation

Faculty peer-review (judgment-based) evaluations is one of the evaluation areas to improve and assess the performance of teachers. In the aspect of teaching reviewed under the approaches and methods criteria, e-learning and blended learning is mentioned as achieving the intended learning outcomes. At present, this also tends to be a bit of a formality, as quantitatively measurable outcomes are primary (eg, number of PD sessions attended), without much emphasis on the higher order learning outcomes. This makes the evaluation reliable, but lacking in authenticity or any real relevance.

2.6   Teaching and learning in Hong Kong

The education system in Hong Kong has long been criticised for its examination-oriented culture (Carless, 2011). This emphasis on results has directed the entire education system to serve a single purpose, namely certification (Berry, 2011).

In the primary and secondary sector, students work hand in hand with teachers to obtain good examination results. Consequently, this has resulted in a "spoon-fed education system" with a banking approach to teaching and learning (Tang, 2016) resulting in students lacking critical thinking skills or sufficient knowledge ownership (Kong, 2014; To & Carless, 2016) when they reach the tertiary institutions. Freshman students are well conditioned to having passive learning styles which are contradictory to autonomous and independent learning in higher education (Loh & Teo, 2017))

In addition, the definition of being a good teacher is situated within the context (in terms of history, society and culture) here (Zeichner, 2008). In Hong Kong, this means giving practical and sufficient examples in lectures to help students remember content and build upon text by explaining further presented concepts (Morrison & Evans, 2016). The teaching style at the tertiary level can be different to what students previously encountered, and students need to be engaged in critical thinking, discussion and are

being encouraged to connect what they learn in class to what they experience in the real world. However, as this style is contradictory to the passive learning style they were accustomed to in secondary school, not all students are comfortable with it. This requires teachers to involve students deeper in the learning process, and Hong Kong students tend to emphasise the English language teacher's "day-to-day practical teaching method" where students value the demonstration of process (Morrison & Evans, 2016, p. 363).

2.7   Conclusion

Thus far, teachers, and the institutions which they serve, have been able to persist in a world of increasing technological sophistication. They have largely been able to get by due to the hierarchical relationship inherent in the classroom and society at large, and have been insulated from criticism that their pedagogical practice lags behind in a technical sense. It is simply the case that 21st century learning outcomes requires 21st century teaching, and teachers needs institutional support, thus far lacking, in order to accomplish this.

CHAPTER 3: LITERATURE REVIEW

3.1   Introduction

This literature review endeavours to first outline the current discussion in the research surrounding PD in general, and specifically which PD activities teachers engage in, discussing some of the relevant frameworks in turn, so that the subsequent analysis can be grounded in a comprehensive and meaningful approach, specifically in terms of its paradigmatic positioning modes of delivery.

This chapter is organised much along the same lines as the research questions themselves; namely, involving both PD and ICT, in that order. The latter, for the purposes of the current research, is considered to be a sub-category of the former, and so the discussion of PD in more general terms is necessary for an in-depth examination of ICT use by teachers. Moreover, this parallels the order of investigation during the data collection, reflecting the need to identify issues in the more general topic which serve as jumping off points directing the more specific investigation that follows.

The first two sections concern themselves with PD in general, discussing both the overview of what sorts of PD teachers engage in as well as their attitudes and perceptions regarding the same, while the final two sections deal more with ICT in particular. In terms of analysing ICT, an analysis of PD as it pertains to ICT specifically will be presented, in an effort to narrow the discussion somewhat, though based on issues relevant to all forms of PD raised in the initial section. Next, the literature review turns to the impact of teachers' attitudes and beliefs as they pertain to ICT-related PD. Following that, the chapter investigates teachers' perceptions of ICT integration in their classes as well as how this perception is coloured by their context and experiences.

Overall, the literature review particularly shows gaps in research on ICT-related PD in tertiary institutions in Hong Kong, and it is with this understanding that the present research is shown to be timely and necessary.

3.2   Research approach to the literature sampling

Research relevant to PD in general was first collected and assessed to ascertain the extent to which it was relevant for latter focus on ICT specifically. In an intentional parallel to the research questions, there was an attempt to gain a firm grounding in the PD literature, particularly to grasp what had and had not been covered previously in terms of TESOL instruction, tertiary education, ICT, or even the Hong Kong context.

Following my more general investigation into PD research articles, I turned towards reading more specific supplementary material. It was not surprising that of these four latter sub-categories, it was clear that there is a dearth of research focusing on more than one of these, let alone all four. This gap was a theme in my reading, and is therefore highlighted in the sections that follow.

Literature was found following searches in both Google Scholar and prominent scholarly journals (TESOL Quarterly, Computer and Education, Teaching and Teacher Education, Professional Development). Keywords used during the process of searching included "professional development", "ICT", "technology integration", "higher education", "tertiary education", as well as using these in combination with various related terms that connected the topic to the region: ASIA, China, and Hong Kong. Further to online research, I was fortunate to have well-informed colleagues at my institution who were kind enough to provide suggestion and guidance along the way.

In terms of relevance and timeliness of the sources, apart from seminal works in the fields of sociology, TESOL, pedagogy and education, I tried to limit my search to sources after 2000. Studies prior to this time period, as occurring a bit before the rise of ICT in education, were considered too out of date to include. Beyond that, every effort was made to emphasise research from the past 5-7 years.

The literature review shows that instructor attitudes and perceptions seem to play a significant role in positive outcomes vis-a-vis integrating ICT in the classroom. Further,

there were very relevant reasons why even the existing PD might be sub-standard or in other ways unhelpful for practitioners. Moreover, this body of research shows that these intangible factors can play an outsized role in the success or failure of PD initiatives focusing on ICT.

Most notable was that there are significant gaps in the extent research, particularly as regards the specific confluence of factors relevant to my context (tertiary education, TESOL, Hong Kong). Further, there was a clear preference among the available research towards measuring discrete inputs to the entire process: hours spent in sessions, number of sessions, amount spent by institutional actors, number of instructors per session and topics covered. Notably lacking was any significant emphasis on the outcomes of this process, whether that be changes in instructor beliefs/practices or pedagogically significant changes in learning outcomes.

3.3   Teacher development / what is PD?

Much has been presented in the literature regarding the overall place of PD in a teacher's career progression, as well as its potential for impact, either for good or ill, on student learning outcomes. Furthermore, educational systems throughout the world trust PD as the main means for attaining educational development, as shown in the works of Bowe and Gore (2016) and Opfer (2016). Clearly a highly relevant and integral part of teacher development, Guskey (2000, p. 16) defined PD as "those processes and activities designed to enhance the professional knowledge, skills and attitudes so that they might, in turn, improve the learning of students." Accordingly, no matter whether PD is structured or unstructured, it is an important endeavour to renew teachers' professional skills, which is considered crucial to continuously improve one's teaching (Woodward, Graves & Freeman, 2018).

It is also important to note that previously, most reviews of PD in the literature have concerned themselves, not with the lived experience of teachers participating in it, but rather objective measurements such as the raw input hours of the programme and

number of teachers taking part (Blank & de las Alas, 2009; Kennedy, 2016; Timperley et al., 2007; Kyndt, Gijibels, Groseman, & Donche, 2016). There is also a notable lack of focus in such research on the ways in which institutions are incentivised to favour this type of accounting, as it obscures the outcomes, or lack thereof, from such PD. If we are genuinely interested in whether this PD actually leads to improved outcomes, those need to be measured; a fact which seems lacking in much of the extent body of research.

Turning from a specific focus on PD to training in more general terms, in recent decades, a trend has emerged that emphasises this training of teachers in all aspects of their professional duties according to best practices (Blank, de las & Smith, 2007; Knight, 2007; Stephens et al., 2007; Stoll et al., 2007; Crandall, 2000; Darling-Hammond et al., 2017; Muijs & Reynolds, 2018; Desimone & Garet, 2015; Guskey, 2014), and this has placed new demands on staff development. Unfortunately, PD continues to be criticised by the very teachers the training was devised for, predominately as it has not taken into consideration the complexity and its situatedness in the teachers' actual classrooms (Knobel & Kalman, 2016).

Consequently, identifying appropriate PD models for the PD of tertiary teachers is fundamentally important (Coldwell, 2017; Rijst, Baggen, & Sjoer, 2017), though this PD has tended to focus on different generic skills such as lecturing, conducting tutorials, creating lesson plans and utilising media and technology (Opfer & Pedder, 2011) and failed to provide deep and meaningful learning opportunities (Appova & Arbaugh, 2018). All too often, there appears an emphasis on a very cursory engagement with the pedagogical outcomes, while what is actually encouraged and measured, as noted above, are the inputs to this PD, such as time allocated for this training or money spent by the institutions.

3.3.1 Specific PD activities

It is also helpful to note that throughout the course of their careers, teachers are faced with an extensive variety of activities and exercises focused on their PD: courses/workshops, where the teachers are engaged with subject matter or possibly receive input on methodology for instruction; conferences / seminars, in which teachers engage with their peers in analysing problems in education as well as discussing the results of recent research; qualification programmes, usually focused on receiving a certificate upon completion (lately in ICT skills); observation visits to colleagues' classrooms or other schools; taking part informally in a group of like-minded peers; collaborating on research investigating professionally relevant topics; peer mentoring and coaching; staying informed of the relevant literature in the field (e.g. journals, evidence-based papers); engaging in informal dialogue with peers; online courses; team meetings (e.g. plan lessons, solve problems, improve performance).

What is most striking about the activities on the preceding list, and indeed the way in which they are treated in much of the existing literature, is that there has been much more focus on the activities themselves rather than the way in which they are perceived by teachers, or even on whether they are ultimately affecting student learning outcomes. While some of the reasons for this are self-evident (institutional inertia, budget, favouring reliability over validity), it remains an important question, and that is precisely the motivation for the present study. What is lacking to a great degree in previous investigation is a more in-depth look, not only at the intersection of PD and teachers' beliefs and feelings, but at how these could potentially be made much more effective. The discussion now turns to the former of these aims.

3.4   TESOL and technology

In the literature, numerous studies have found advantages of integrating ICT for second language acquisition (Cardenas-Claros & Oyanedel, 2015; Chappelle, 2012, Stockwell, 2012). These have found that TESOL teachers need ample realistic opportunities to practise how to integrate ICT using their traditional teaching techniques in order to become confident and competent in using technology inside their own classrooms (Eaton, Wagner, Hirashiki, & Ciancio, 2018). Moreover, the TESOL literature highlights that for effective integration of ICT in language settings teachers should understand and embrace in their own contexts that no one knows everything, everyone is learning, and it is acceptable to make mistake, especially in terms of integrating technology in their classrooms. This should be regardless of context, platform or style of content delivery (online, on ground, synchronous, asynchronous, hybrid, flipped) (Healey, 2011).

Generally, TESOL PD in ICT tends to occur in the following ways: schools and universities insist that teachers complete X number of hours of PD for certification purposes. In addition, there are possible incentives such as money or time off work to do so. Another possibility is that teachers are faced with changes in the curriculum (Hubbard, 2018). As can be seen from the examples above, teachers probably engage in PD for external reasons. However, teachers do engage in PD to satisfy other aims; namely, in service of their students' learning, to stay current with best practice in the field and participation in a network of colleagues. Overall, the common denominator for successful ICT integration seems to echo the findings of Ertmer and colleagues: "we should be utilising the same technology tools for professional development that teachers are able to use in their classrooms (2012, p. 434)."

Further, various frameworks have been suggested to facilitate integration of technology, and will be expanded upon below.

Substitution Augmentation Modification Redefinition (SAMR) is a method geared towrds the observation of how teaching and learning is enhanced by technology

(Puentedura, 2006). The models illustrate how teachers usually follow a particular path through the integration of technology into teaching. Learning activities involve an escalating level of integration with technology as teachers move towards the end of the spectrum.

The Technology Integration Matrix (TIM) measures the capacity of technology to facilitate learning via indicators pertinent to all grade levels of students (Florida Department of Education, 2006).

The TPACK framework is an approach where instructors are able to deploy technology in pedagogically strategic ways relevant to particular content areas (Koehler & Mishra, 2009). While this framework has been used extensively to prepare K-12 instructors to teach effectively with technology, it is employed at a considerable smaller scale in institutions of higher education (Dysart & Weckerly, 2015).

3.4.1 TESOL Digital Pedagogy

English Language teaching and digital pedagogy varies in many forms, ranging from drill and practice of certain language skills, such as reading and writing, to using Web 2.0 to construct knowledge. Today's English language classrooms demand innovative tools and conceptual approaches. Teachers and students use a plethora of ICT tools including laptops, tables, smartphones and online environments to adapt, personalise and enhance the student learning experience and improve the learning outcomes (UNESCO, 2019). Digital pedagogy is thus seen as being a vital component for both teacher and student and is rooted in general learning theories such as behaviourism and constructivism (Li, 2017). Teachers are required to meet this challenge and move beyond traditional pedagogical approaches and methods as students tend to access learning material on their smart devices, searching, reading, collaborating and/or organising information, rather than with traditional textbooks while learning in a classroom (Li, 2017). For example, students might enjoy taking photos with their smartphone or tablet and these could be used as a stimulus for speaking. Students'

mobile devices might be used as a camera, audio recorder, word processor or a video-editing suite and can thus be used a simple means of engagement or used to produce impressive multimedia presentations (Wilden, 2017). English language teachers need suitable PD to augment their teaching techniques to become confident and competent in incorporating this type of digital pedagogy in their classrooms (Eaton, Wagner, Hirashiki, & Ciancio, 2018) to break down any existing boundaries and respond to the emerging challenges to account for effective second language acquisition.

As will be discussed below in Chapters 6 and 7, these issues of the interplay between ICT and pedagogy were at the forefront of the minds of the educators who participated in this study. As detailed in Section 4.3.5 below, they all have sufficient experience teaching in Hong Kong (as well as internationally) to be familiar with multiple classroom contexts and situations. They all expressed interest, albeit to varying degrees, in the ability of ICT to assist their pedagogic objectives.

Moreover, the teachers are representative of both Eastern and Western cultural backgrounds, as well as educational experiences, and so while generalising their experiences to the wider educational community in Hong Kong is beyond the scope of the present study, it might still serve as an instructive point from which to pursue further investigation.

3.5   Teachers' perceptions of professional development

As an institutionally mandated activity, PD occurs very frequently in education at every level (Crandall & Christison, 2016; Canagarajah, 2015). In the context of this ubiquity, it is relevant that numerous studies have questioned the limitations of conventional modes of delivery, typified by individual non-integrated workshops, to address a wide range of current PD methods (Megginson & Whitaker, 2017). Of importance to my particular context, this research has pointed out that when there is a mismatch between the professional needs of teachers and the existing forms of PD, the probability of favourable impacts on student learning within their context might be low (De Weaver,

Vanderlinde, Tuytens, & Aelterman, 2016). This clearly presents the possibility of changing the way that institutions are dealing with the PD needs of teachers, and as very little of the research has dealt directly with their personal reactions to PD, much less PD in ICT skills, there is a very pressing need to carry this out.

Previously, PD in ICT predominately focused on the use of ICT, and in today's digital society it is becoming increasingly common to focus on instructional strategies and needs (Hubbard, 2018; Stockwell, 2014; Albion, Tondeur, Forkosh-Baruch, Peeraer, 2015; Hinostroza, Ibieta, Claro, & Labbe, 2016). What is evident from the recent discussion is that PD in ICT needs to be ongoing to be successful (Voogt et al., 2015) in contrast to Gall and Renchler (1985), Garmston (1991), both of which only posited teachers as lacking knowledge and simply requiring more of it. In relation to this, previous studies have found that PD sessions are enhanced by subsequent visits to actual classrooms as well as engagement in workshops that further reinforce the specific skills (Guskey, 2002; Cradler et al., 2002; van Veen et al., 2012), and this is what is missing in the Hong Kong context. Indeed, a focus merely on the inputs to the process of PD completely misses this important component of application of knowledge to real world practical contexts. This would assist in transforming teachers' learning and belief into actual successful classroom practice.

Additionally, previous research (Lawless & Pellegrino, 2007; Cubeles & Riu, 2018; Rijst, Baggen, & Sjoer, 2018) argued that tertiary institutes need to provide better PD and provision for teachers to attain ICT and pedagogical skills. However, a majority of studies in TESOL have primarily focused on measuring learning satisfaction of training programmes, and not addressed the main issue: whether teachers changed their beliefs towards integrating technology (Rienties, Brouwertm, & Lygo-Baker, 2013; Gallagher & Haan, 2018). Also lacking is the question as to whether teachers gained new knowledge of something that they could apply to their daily practice, in a manner that is valuable and relevant to them and their students.
It is precisely this notion of value and relevance, and more specifically the perception of such, that affect teaching and learning to teach. These are highly contextualised and

emergent activities, and are necessarily constructed on a foundation of teachers' own knowledge and beliefs, as well as mediated via experienced problems and realities of their classroom practice (Opfer & Pedder, 2011). Therefore, it is not entirely unexpected that a one-size-fits-all approach, all too often found in PD programmes, is insufficient, as differentiated guidance and input are relevant to different teachers, and they themselves should be shown the courtesy of a sensitivity to different learning styles and preferences (Vermunt & Endedijk, 2011). A common perception found among teachers is that these PD programmes are ineffective, or even almost completely irrelevant (Egbert & Borysenko, 2018). While pertinent and notable, these statements from teachers should not be taken solely at face value; instead, what would be warranted is a combined focus on how these beliefs correlate with actual outcomes in the classroom. To my knowledge, no such research exists.

Further, several authors have argued that a lack of integration with the professional practice of the teachers, or a failure to take into account their authentic working conditions is another deficiency in many PD approaches (Borko, 2004). Another study carried out in Scotland by Biesta, Priestley and Robinson (2015) obtained similar research findings; however, the study was fairly limited as it only focused on 6 classroom teachers.

It should be admitted here, however, that given the necessities of organising and funding PD endeavours at large institutions, it is unsurprising that administrations have opted towards an assembly line approach. At the same time, there is a dearth of literature discussing how administrations can be convinced to invest more fully in their educators. As this is the primary method through which institutional resources are redirected, an investigation into the same would be highly valuable.

A further theme in recent scholarship presents values of teachers as involving overarching attitudes regarding what may be considered behaviour that is desirable or undesirable, as well as similar attitudes regards goals (Vongkulluksn, Xie, & Bowman, 2018). Additionally, research has undergone a transition from an emphasis on teaching

to an emphasis on learning (Yi & Angay-Crowder, 2016), which is aligned with the view of constructivists: that active cognitive processes are fundamental in learning (Marshall, 1996). General trends, such as positive attitudes towards learning and student engagement corresponding to a student-centred approach, as well as attitudes favouring teaching procedures corresponding to teacher-centred approaches, are present in much of the literature (Yeung, Taylor, & McWilliam, 2013). A more nuanced view, however, towards the interaction of teachers' beliefs with the formation of these attitudes and approaches, is less clear (Öztas & Dilmac, 2009), and therefore a more in-depth analysis of exactly how these choices are formed is necessary. Particularly of note and relevant for the present research is the lack of any such study of qualitative choice in the Hong Kong context.

3.6   Teachers' ICT professional development

There are examples of studies undertaken with the aim of highlighting features likely to correlate with the success of PD programmes for educators (Garet et al., 2001; Van Veen et al., 2012; Desimone & Garet, 2015; Tondeur, et al., 2017). These have obvious implications for any investigation of ways to enhance PD.

Features highlighted as contributing to success include encouraging and supporting the integration of new teachers in the development of practical classroom approaches, engaging in collaborative learning with peers in a cooperative environment, and taking part in active and meaningful discussion that engage their critical thinking skills. Literature also points out that the above features are helpful in developing positive PD programmes to a certain extent (Van den Berg et al., 2014; King, 2016; Cubeles & Riu, 2018), though overall the research in this area is not entirely clear on what actionable steps to undertake.

Another major recent finding is that attempts to facilitate PD in ICT can be of little practical value, or otherwise poorly structured to effect positive adoption (Schlager & Fusco, 2003; Tondeur et al., 2016). Further, the majority of current professional development related to technology is focused on short-term goals and simply extends

available technology (Harris, Mishra, & Koehler, 2009). This mechanistic form of ICT-based PD where teachers are asked to turn to the digital device with hopes that it will automatically improve student learning outcomes is clearly a problem in the increasingly technologically-sophisticated classroom. Moreover, the constant change in the educational context, government reforms and restructuring, means teachers are constantly adapting to changing needs to integrate ICT as a way to "improve the quality of education" and to meet the demands of the society (Kalman & Guerrero, 2013, p. 261). This intensification has led to constraints on their overall professional development and correspondingly to their feelings of self-efficacy:

> *Teachers across all professional life phases felt that heavy workload, a lack of time and financial constraints were important inhibitors in their pursuit of professional development* (Day at al. 2006, p. 123).

This correlates with the situation at my particular teaching context, where teachers are expected to teach up to 20 hours per week, participate in committees, attend conferences, and participate in projects as well as apply for funding. In addition to the above, the process of undertaking ICT certificates/courses is often expensive and time-consuming, and teachers have neither the financial means nor the time to enrol (Li, 2014).

3.6.1 Student-teacher digital divide

It seems after a review of the literature that pedagogical skills and knowledge of ICT has been incorporated differently and with varied success, though it is clearly considered a vital part in revitalising existing and new content being presented in the curriculum based on "constructivist, constructionist, socio-cognitive and socio-cultural theories of learning" (Loveless & Williamson, 2013). In the perspective of 21st century learning, integration of ICT is deemed imperative in changing how we teach to better motivate and engage the 21st century learner (Erstad & Voogt, 2018; Voogt & Knezek, 2018).

The literature often portrays a positive digital picture of these learners, hence the belief that effective integration will naturally follow once they as digital teachers enter the classroom (Li, Worch, Zhou, & Aguiton, 2015).

Another finding in recent scholarship is that digital natives use ICT more often than their parents and teachers, who in many respects could be considered digital immigrants (Berman & Hassell, 2014). Due to their familiarity with ICT this creates a new space for a different style of learning (Englund, Olofsson, & Price, 2017), which in turn puts a demand on teachers to integrate its use in their classes successfully (Hendersen, Selwyn, & Aston, 2017). Consequently, it has become an essential component of a comprehensive pedagogical approach as can be seen in the Hong Kong tertiary education sector. At the same time, uncritical acceptance of the ability of ICT to solve otherwise poor teaching is problematic, and speaks to the need to study increased ICT integration into teaching combined with measurable learning outcomes, as mentioned previously.

In the past few years ICT has become widespread in classrooms throughout the world and the demand for it to be integrated as a catalyst in teaching increases on a daily basis (Kozma & Vota, 2014). A common belief among policy makers is that teachers will automatically become more efficient and better teachers if ICT is added to their classrooms (Knobel & Kalman, 2016). Further research has shown that "Today's education system faces irrelevance unless we bridge the gap between how students live and how they learn" (Learning for 21st Century p. 5). However, teachers are still widely regarded as reluctant and skeptical users (Eickelmann & Venneman, 2017).

One of the more discussed issues in education is teachers' hesitancy to integrate technology successfully in their classes, and one of the reasons is that the responsibility is often solely upon the individual teachers. There seems to be a tacit assumption that the entrance of the digital natives into the teaching profession will be able to address this issue (Morris, 2012), and this assumption is supported by recent findings that digital

native teachers are more comfortable with integrating advanced technologies such as content creation than digital immigrant teachers (Kinash & Wood, 2013).

However, these high expectations are counterbalanced by research indicating that the relatively high level of proficiency exhibited by digital natives when they are outside of the classroom does not necessarily translate into a higher rate of adoption of ICT in their actual teaching when compared to digital immigrants and older teachers (The Richard W. Riley College of Education and Leadership at Walden University, 2010). Similar findings have been made where the skillset of teachers new to the profession are clearly better (Polly, Mims, Shephard, & Inan, 2010; Orlando & Attard, 2016; Li et al., 2015; Higgins, Xiao, & Katsipataki, 2012), however these skills do not automatically successfully transfer to utilisation of ICT in their classrooms. This has also been observed in the author's context where the University is currently undergoing a generation gap with many late-career teachers as well as early career digital native teachers being employed. It is therefore obvious that a more nuanced inquiry is required.

3.7   Attitudes towards ICT training and professional development

Authors such as Sang, Valcke, Braak and Tondeur (2010) have noted that the effective integration of ICT is contingent upon factors such as resource capacity and teacher attitudes. Moreover, the pedagogical beliefs of teachers have been highlighted by authors such as Hermans, Tondeur, van Braak and Valcke (2008) and Prestridge (2017) and Jässkelä, Hääkinen and Rasku-Puttonen (2017) to play an integral part in successful classroom integration of ICT, and it should be considered a vital aspect of any approach to professional development. In terms of the implementation of ICT and assisting teachers in using it to attain enhanced pedagogical outcomes, it has historically been the case that the contributions of this process to improving their practice are less prevalent in discussions surrounding education (Lim et al., 2013; Leask & Young, 2013)

Calderhead (1996) draws a line between knowledge and beliefs, with the former being described as "factual propositions and understandings", whereas the latter are composed of "suppositions, commitments and ideologies" (p. 715). While the empirical basis for this delineation is unclear, it remains a productive conceptualisation of the ways in which teachers organise their worldview: into things supported by facts and other ideas "from the gut." This can then inform the discussion of teacher beliefs as they correspond to ICT, as an example, in that teachers who have practical experience in blogging, or even know other teachers engaged in blogging, may not necessarily manifest a belief that these practices can be exploited for positive pedagogical outcomes in their own classrooms.

This seeming insensitivity of beliefs to facts and experience, contrasts with the conceptualisation of knowledge, being grounded in fundamentally objective experiences and processes, which can be derived through rational discourse. The proposition of beliefs requires that no such consensus emerges, instead comprising purely subjective experience that may resist external interpretation or criticism (Fives & Buehl, 2012). According to Nespor (1987) the fundamental shift in beliefs is moreso a personal decision rather than an observation arrived at through a deliberate consideration of evidence. This is precisely why research on subjective perceptions of the nexus between PD and ICT is so vital, and therefore why its absence is problematic and of interest.

3.7.1 Active users vs passive consumers of technology

It is disputed, however, what model of PD in ICT is most effective (Knight, 2002), and this is something which needs to be examined. This is especially salient when taking into consideration that the way teachers incorporate ICT in their classrooms has been found to have substantial ramifications on students' performances (Skryabin, Zhang, Liu, & Zhang, 2015; Venkatesh, Croteau, & Rabah, 2014). In a study carried out in Hong Kong, Chiu & Churchill (2016) found that teachers believe they have good computer skills, but it doesn't necessarily manifest itself inside the classrooms and

actual technology use. Though this quantitative study is particularly relevant as it was carried out in Hong Kong, it only incorporated a Likert-scale questionnaire without any follow-up interviews to interrogate teachers' beliefs. The findings should be considered tentative or suggestive and deserves further investigation. Though what remains unclear from this particular research is the manner in which the teachers were able to achieve an elevated understanding of ICT, which would prove very useful for the present study.

Another recurrent theme in the research is that one of the more common methods to increase teachers' skills in terms of utilising technology is the "re-tooling" approach where teachers' competencies are being developed through a focus on specific types of ICT applications. This type of training is often in the shape of a skill workshop, which is very prevalent in HK, though which remains clearly problematic that after such PD teachers are left on their own to find things to do with these ICT skills in their teaching (Kalman & Guerrero, 2013). Bigum (2002) refers to this approach as "domesticating" the computer and Lankshear and Bigum (1999) term these practices the "technologised" approach. Instead of focusing on helping teachers to develop or build upon essential skills and engage students in using ICT in a pedagogically sound manner consistent with their teaching materials.

In that context, it is important to note that a long-standing call in the arena of PD in ICT was made by O'Rourke in 2001: "to focus on pedagogy rather than on the technology itself" (p.31), and echoed by scholars such as Higgins (2016). This call was later further developed where PD in ICT should focus on "confidence in change … rather than evidence of [ICT] competence" (Loveless, 2003, p. 324) and later supported by Ryan and Bagley (2015). This trend in thinking later evolved into a call for a culture change, "a renaissance," (Fisher, Higgins, & Loveless, 2008) with a focus towards a reinvention of the practice inside the classroom to find new ways to teach, collaborate and incorporate more complex tasks so everyone continues to learn and grow (Prestridge & Tondeur, 2015; Thurlings, Evers, & Vermeulen, 2015; Higgins, 2016).

Therefore, in order to encourage productive incorporation of technology, a starting point for PD is to understand teachers' perceptions and beliefs as well as the origin of potentially tacit concerns they might have. Davis, Bagozzie and Warszw (1989) have developed a framework, the Technology Acceptance Model (TAM), to address precisely these beliefs. It seems to imply that a positive perception of the importance of technology to the teaching and learning goals of the classroom will carry over into generally favourable orientations to it. Complicating this, however, is contrasting research suggesting that the complexity of teachers' actual decisions to engage productively in using technology may be more nuanced than the previous model suggests. As an additional hindrance, a great deal of studies have found that teachers are frequently frustrated by external factors such as training, technical support and various pedagogical resources (Li, 2014).

As a secondary focus of this type of research, several studies have sought to simply enumerate which types of technology are used, and how teachers are using them. These authors (Li, 2007; Li & Ni, 2011; Tondeur, van Braak, Ertmer, & Ottenbreit-Leftwich, 2017) discovered that technology is primarily used in preparation for teaching, as well as in lesson delivery following a traditional instructional model (Hinostroza, Ibieta, Claro & Labbe, 2016; Ibieta, Hinostroza, Labbe, & Claro, 2015). The two studies carried out by Hinostroza, Ibeita, Claro and Labbe (2016) as well as Ibieta, Hinostroza, Labbe and Claro (2015) were both carried out in Chili with secondary school non-English secondary school teachers. The former study used 12 semi-structured interviews with observations, and the latter only a self-reported questionnaire. In essence, there's nothing new here; merely reproducing existing teaching approaches in a more technologised way.

Contrastingly, the current movement within ICT professional development increasingly emphasises a focus on pedagogy instead of the technology itself (Hubbard, 2018; Prestridge, 2014). This is a positive step towards enabling teachers to not only use the technology, but to do so in accordance with best practice digital pedagogies; and by

doing so they may enable the innovative possibilities of ICT in English language teaching.

However, it appears that most PD is still simply focused on such "re-tooling" of teachers and fails in actively engaging them, instead focusing on developing teachers' competencies on one specific type of ICT application that is already present in the curriculum (Tondeur, 2015; Koh, Chai, Lim, 2016). This "technologised" approach (coined by Lankshear & Bigum, 1998) only deals with first-order barriers (hardware and software) and not with what is arguably much more influential: the second-order barriers discussed above, such as changing teachers' attitudes, beliefs and pedagogy. Granted, these second order barriers are much more difficult to quantify, and hence more difficult to collect data on, though as discussed above, these less tangible aspects of successful ICT integration into the classroom seem to be much more impactful.

Today's teacher can therefore no longer be satisfied with using technology merely as support for lecture-based instructions, as this is a far cry from the currently advocated best practice in the field (Lawless & Pellegrino, 2007; Partnership for 21st Century Skills, 2007). Instead, it is recommended that teachers follow and use "constructivist-compatible" instructional activities rather than the traditional "transmission" view of learning (Becker, 2002). Research has found that there is a strong correlation between teachers who are active users of technology and those who espouse contructivist viewpoints (Ertmer et al., 2015). However, teachers need convincing reasons to significantly alter their practice. If change is forced or mandated from administration, the results may be weak acceptance, without genuine change (Evans, 1996).

3.7.2   Beliefs regarding integrating ICT into classroom practice

Although becoming more widespread, existing literature related to PD focused on ICT in tertiary educational institutions is still regrettably lacking in terms of breadth and depth (Hu & McGrath, 2011; Zhu, 2015). This is largely dependent upon three facets of the previous research. Firstly, the vast majority of these took place in either primary or

secondary educational institutions. Secondly, teachers in general have been the primary focus of this research, not specifically language teachers (Bliss & Bliss, 2003; Karagiorgi & Charalambous, 2006). Thirdly, even when considering those studies taking place in a tertiary educational context, the overwhelming focus was on the programmes themselves, for example, the practices or structure of these programmes (Spencer-Oatey, 2007), while those which actually investigated barriers of a second-order nature, as discussed above, were by far in the minority (Howard, Chan, & Caputi, 2015; Waight, Chiu, & Whitford, 2014).

Of the research that does exist, the incorporation of technology has encountered a number of barriers, and these have been widely researched and discussed for the past thirty years (Lowther et al., 2008; Albion et al., 2015; Vongkulluksn et al., 2018). A comprehensive study (Hew & Brush, 2007) investigated the leading barriers to ICT integration between 1995-2006 and found the three most commonly cited were resources, the skill base of teachers, and the particular attitudinal stances of teachers (Lam, 2000; Hsu, 2016). Most importantly for the present study, lack of PD for teachers is the most frequently mentioned source for lack of implementation of new technology as shown in the work of Drexler, Baralt and Dawson (2008), and teachers still tend to respond to PD with little positive feedback (Appova & Arbaugh, 2018).

3.7.3 The link between ICT practices and teacher beliefs

To better understand why some teachers, integrate ICT and others do not, there is a need to examine professional development modes, attitudes and beliefs and perceived usefulness as means to improve teachers' impact in the classroom.

As argued above, the belief systems of teachers are multidimensional and complex, comprising various intersecting aspects (Hermans et al., 2008). Further, a great number of researchers have suggested that these systems of belief may directly influence the manner in which technology is utilised by teachers in the classroom (Chiu & Churchill, 2016; Kim et al., 2013).

It is important to note at this juncture that numerous studies have explicitly supported this connection: that teacher belief about teaching and learning are direct determiners of how ICT is actualised in the classroom (Tondeur, van Braak, Ertmer, & Ottenbreit-Leftwich, 2017; Eickelmann & Vennemann, 2017; Lawrence, 2018; Jääskelä, Häkkinen, & Rasku-Puttonen, 2017). Studies have been conducted analysing the correlation that exists between the effective integration of ICT in classrooms and attitudes of teachers towards the same (Ertmer & Ottenbreit-Leftwich, 2013; Hur, Shannon, & Wolf, 2016). While it may be true that other factors impacted the effective integration of ICT into these classrooms beyond merely the attitudes of the teachers, this research clearly shows that these positive attitudes are not an impediment to such integration.

In a seminal study conducted by Veen (1993) discovered that teachers' beliefs pertaining to the subject they are teaching, and the benefit of digital pedagogy thereupon influence their use of ICT. This study supports the Technological Pedagogical Content Knowledge (TPCK) approach originating with Mishra and Koehler (2006), who underscore the methods through which ICT changes content knowledge. Further, Li (2014) discussed differing epistemologies along the spectrum of effects on the implementation of ICT. In terms of helpful approaches in mathematical pedagogy, a type of epistemology that is characterised by "[a belief] that students learn best when they are given projects and guidance to help them construct mathematical concepts for themselves" (p. 243) was discovered to be beneficial.

However, one particular epistemology characterised by a reductionist outlook, "where concepts are viewed to be passed along one at a time to students" (p. 244) was found as detrimental to an effective integration of ICT. Comparing these two types of learning models, in a study conducted in 2000, it was discovered that those tending towards a more sophisticated and critically reflective epistemology were more likely to correlate with constructive application of the same (Howard, McGee, Schwartz, & Purcell, 2000). In addition, previous studies have found direct correlations between constructivist approaches and the effective usage of technology (Ertmer, Ottenbreit-Leftwich, &

Tondeur, 2015; Schrimshaw, 2004). The contributions of this research notwithstanding, there continues to be a lack of such inquiry at the tertiary level in a Hong Kong context.

Recent research by Patrick, Elliot, Hulme and McPhee (2010) and Korthagen et al. (2014) showed PD to be most useful when teachers were able to actively reflect on these practices, and the greatest benefit from this reflection was its ability to engender positive risk taking behaviour in the teachers, and this highlights the importance of informal networks in maintenance of learning communities which enhance and sustain efforts towards PD (Walsh, Bradshaw, & Twining, 2011; Macia & Garcia, 2016).

In addition, there have been several studies carried out regarding how to best take into account the perspectives of teachers during the process of full ICT integration into the classroom (Kozma, 2003; Tondeur et al., 2013; Ertmer et al., 2012; Ryan & Bagley, 2015). Teachers tend to select ICT tools based on their belief about "good" education and their role as teachers (Lim et al., 2014; Yu, 2013). In terms of language teachers, the selection of ICT tools can be very indicative of their overall approach to language education (Davis, Otto & Ruschoff, 2013). Even today, Ertmer and Ottenbreit-Leftwich (2013) showed that the primary use by teachers was ICT as aids to delivering content and not to effect meaningful changes in students' outcomes. They suggest stakeholders need to consider the effects of context as well as socio-affective factors, as these can alternately serve to help or hinder the process. This is comparable to what Sang et al. (2010) and Hur et al. (2016) found, that for ICT to be successfully integrated, numerous factors come into play, including resource level and infrastructural availability.

It is therefore of paramount importance that pre-existing pedagogical beliefs of teachers are raised to a conscious level such that they may become subjects of detached scrutiny and possible restructuring in line with a comprehensive programme of PD. A multitude of authors have discussed this second order barrier of teacher beliefs, especially as related to its impact on the success, or lack thereof, of integration of ICT into the classroom (Ertmer et al., 2012; Ehman & Bonk, 2002; Eib & Cox, 2003; Prestridge, 2012; Kim et al., 2013; Makki et al., 2018), though investigations of this type

remain a bit lacking in the Hong Kong context, and more specifically in terms of PD related to ELT ICT.

Not necessarily always detrimental, these beliefs definitely play an important role as guides to how teachers approach new problems and situations, as well as application of teaching techniques and practices (Hsu, 2016;). Relative to their interaction with students, teacher beliefs have also been shown to somewhat delimit conceptions of student ability, as well as being an indicator of professionalism (Zeng, 2008). This is echoed by Chen and Chang (2004), who emphasise the significance of teacher beliefs as core predictors of success in teaching experiences.

Additionally, researchers have found when identifying behaviour in class that teacher beliefs are considered a significant indicator because of the effect they play in the mediation of actual decision making as regards pedagogy (Lim et al, 2014; Yu, 2013). Basically, a positive attitude towards ICT integration is normally believed to correlate with the promotion of activities which are student-centred (Fives & Gill, 2015). Consequently, in terms of integrating technology, there seems to be a link between attitudes related to effectiveness of particular modes of instruction and willingness to incorporate ICT in fulfilling the instructional goals.

3.7.4 Face maintenance and cultural consequences

One final complicating factor is teachers' fear of loss of face, or self-respect and esteem within the community (Coggin & Coggin, 2001), which impacts my particular context in a very significant way. A focus on face maintenance necessarily entails self-perception and perception of teaching, which can impact pedagogical activities of teachers (Yeung, Craven, & Kaur, 2014). Further, as their teaching develops, it can become regulated by the dynamics between these perceptions and actual practice (Han, 2016).

It is for this very reason that some authors have pointed out that any genuine professional development needs to be grounded in an attempt to fundamentally change

underlying beliefs and attitudes (de Vries, Grift & Jansen, 2014). Both teachers and students have deep anxiety centering around their own and others' perceptions of face, the potential loss of which stands as an enormous threat, entailing negative consequences for their position in the community.

Given that the attempted integration of ICT and its high potential for difficulty necessarily entails a possible threat to face, teachers may pre-emptively reject any such developments as their self-concept encompasses expectations of negative face as negative achievement (Hwang, 2007).

In some extreme cases, teachers may even react in rebellious ways to potential threats of face-losing behaviour (Hu & Li, 2008). In a socially prescribed imperative to avoid "losing face" both students and teachers are expected to adhere to certain social roles, and failure may cause either party to feel deeply ashamed and embarrassed (Pinner, 2019). This might eventually lead to losing confidence in interactions and damage the classroom atmosphere (Han, 2016). Further, teachers may already have encountered negative experiences from their own careers or those of colleagues with this possibility outside the context of ICT, as those not able to follow these prescribed rules/roles are likely to experience difficulties and possible conflicts in managing their classes, especially when involving freshman students (Hue, 2005).

Given the particular social and educational contexts of Hong Kong, it may very well be the case that attempts to introduce a less teacher-centred approach is impractical, and further, that this is a much greater impediment to the increased integration of ICT into the classroom than any sort of subjective perceptions or beliefs of any of those involved in the process, be they teachers, students or administrators. What this chapter intends to highlight, however, is that we are unable to make that determination in the absence of sufficient scholarship related to this very issue. It is a persistent gap which needs addressing, and this literature review has been an attempt to do just that.

3.8   Conclusion

Given all the issues and challenges presented in the relevant research, it is clear that much has been done, though much remains. This chapter has presented research suggesting that ICT integration into classroom teaching is necessary, and even mandated at both the institutional and national government levels. Further, various factors affecting the likelihood of positive and negative outcomes have been well documented by these researchers. Another clear outcome of any review of the literature is that there exists a gap, specifically in terms of research in the tertiary educational sector in Hong Kong, targeting language teachers specifically and focused primarily on the socio-affective factors influencing their ability to fully integrate ICT in their classroom. Further and parallel to this lack in research, multiple challenges also persist in translating the extent research output into tractable student learning outcomes.

Given the above considerations, it is clear that a more in-depth inquiry into teacher beliefs and experience as regard PD focused on ICT skills would be beneficial, particularly in Hong Kong.

CHAPTER 4: METHODOLOGY

4.1   Introduction

This chapter will seek to elaborate on and clarify those beliefs foundational and fundamental to my understanding of research methodology as pertinent to the present study. These will be used to argue for the specific methodological approaches I have taken, and the rationale for the same will be presented and supported. I set out the arguments surrounding the interpretive paradigm, provide the full details of my approach, and connect these to my decision to analyse the data as I have so chosen to do. Especially with a grounding in the previous chapter's extensive review of the literature, I seek to present a defensible and principled basis upon which to thoroughly conduct my study and assess the results via a rigorous inspection of the data.

The rationale for using a mixed-method design, and two-phase structure, is the demonstrable lack of either method, collecting only quantitative or qualitative data, in isolation, to be satisfactory in answering the research questions, nor to fully capture the trends and elements contained therein. The first phase, a questionnaire, will provide an overall picture of the research problem. Subsequent to this, analysis of the relevant qualitative data serves as a productive means of refining the previous results, given the ability to interrogate participants' views and unpack their hidden voices in a more fluid manner (Rossman & Wilson 1985; Tashakkori & Teddlie, 1998; Creswell, 2009). A range of authors have previously employed this method (Greene & Caracelli, 2003; Tashakkori & Teddlie, 1998; Denscombe, 2008), and it can serve to construct a much more robust analysis, utilising the particular strengths of each of the different data types. It should also be noted that this structure is straightforward to implement, and data will be collected as prescribed above in two separate phases with only one type of data at a time.

My purpose is to gain a richer understanding of how teachers actually participate in professional development activities around ICT. Therefore, as presented previously, my study is informed by a number of research questions. Given that I'm interested in sketching a holistic picture of the full context underpinning professional development in ICT, my first question seeks to approach this directly, whereas the second question serves to fill in the qualitative details involving teachers' opinions and stances towards this type of professional development. The third and fourth questions more explicitly pertain to the actual usage of ICT skills during the course of classroom teaching, with the former addressing teachers' qualitative assessment of the same, whereas the latter involves meta-data of sorts, targeting teachers' perceptions of the effectiveness of professional development in helping them to fully exploit ICT in their teaching. For clarification, the research questions are reproduced in full below:

1. What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?
2. What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?
3. What are these English teachers' attitudes and beliefs about integrating ICT in their teaching?
4. To what extent do these English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in teaching?

4.2   Interpretive paradigm

Many different paradigms in educational research provide systematic inquiries aimed at producing knowledge (Denzin & Lincoln, 2005).

In the research process the data collected will be qualitative or quantitative, and use of both types of data is supported by the work of researchers such as Creswell (2014). In

addition, each paradigm is based upon its own ontological and epistemological assumptions, and it is virtually impossible to conduct any research without adopting a stance, even tacitly.

The quantitative approach is prominent in Hong Kong, where the positivist approach has been primarily used to assess how tertiary English teachers perceive PD (Trent, 2012), probably because positivist research is "the central philosophical stance in a great deal of organization theory" (McAuley et al., 2007, p. 33) and, therefore, the default position for research on management practice. One of the main benefits of conducting positivist research, from the institution's perspective, is that it has unambiguous criteria for making sense of the results (Nunan & Bailey, 2009), which is particularly valued by management (McAuley et al., 2007). This putative benefit, however, comes at the expense of the more human side of teaching, and Freeman and Johnson argue that it "ignores and devalues the individual experiences of teachers" (1998, p.399), who are after all at the centre of what is being measured.

It is for this reason that positivism by itself seems inadequate to address my research needs, as it does not allow for a complete exploration of experiences, attitudes, beliefs or perceptions (Merriam & Grenier, 2019). Littlewood (2004) makes the case that PD is not a direct line of internalisation of information; instead it is part of an on-going process where one is making small changes. Though positivism contains a strong appeal for management, and it is ultimately the administration of the academic institutions who must be convinced of the need to change, if any adaptation to PD in ICT is to occur, I ultimately decided that this particular approach was simply too limited to fully explore the more interpersonal aspects of the phenomena I seek to investigate. It is precisely this limitation of positivist research relative to my area that leads me to make a case for interpretivism.

My experience as a teacher and teacher-trainer has imparted a viewpoint implicitly grounded in the interpretivist paradigm as I a) conceptualise the world as complex and

primarily mediated via human interactions, b) appreciate flexibility in the research process, and c) definitely approach PD as a context-specific process.

The interpretive paradigm is fundamentally concerned with the understanding of people and what makes them behave as they do, as argued in the work of Babbie and Mouton (2008), and it is highly concerned with the real-life experience of study participants. This paradigm is traditionally connected to the work of both Max Weber and Wilhelm Dilthey. It emerges from a deep sympathy and understanding, or *Verstehen*, of the ways that people live their experiences according to Dilthey (Neuman, 2011). In a similar vein, Weber argued that everyone is attempting to craft an internally consistent logic for the world they inhabit, and in doing so, engage in a continual process of creating, providing meaning for, defining, justifying and rationalising their actions on a daily basis (Babbie & Mouton, 2008; Cohen et al., 2011).

Interpretivists believe that a fully cogent understanding of the social world is necessarily a pointless task, as this world is socially co-constructed, and as such is composed of the subjective meaning given to it by those actors who cooperate in its creation. Thus, the task of the researcher, who is part of the world they are observing, involves making sense of that which is happening around them. The strength of this approach is that this process can produce types of data above and beyond what has traditionally been defined as scientific knowledge (Blumberg et al., 2011).

To summarise, interpretivist researchers attempt to outline the basis for participant construction of these subjective shared realities, and further to provide principled analyses, which are necessarily meaningful for those involved, as to the explanations for the phenomena they observe. Crucially, this embedded nature of the researcher's interpretation is paramount, rather than to merely generalise and predict causes and effects (Neuman, 2011), as is so often the case in other, more objectivist paradigms.

4.2.1   Ontology

The ontological position of interpretivism is relativism, meaning that reality cannot be successfully conceptualised nor understood without context; it is subjective and constructed through experience and social interactions (Guba & Lincoln, 1994). Interpretivist research is about examining emergent meaning in the experiences of individuals, based on interactions with the social environment; the very concept of an objective reality is rejected. The researcher and the participants are co-creators of the study's results.

It is for this very reason that it is so vital for the present study to engage with social co-construction, as I am proposing to do. It is not enough to merely note down pen-and-paper responses of the participants, but rather, that these serve as a stimulus and accelerant for the later discussion, in which it may be possible to co-construct their lived experience of both professional development and ICT. Indeed, this socially mediated exploration of perceptions and beliefs is of primary importance in this particular paradigmatic and ontological position, and it is therefore at the heart of my methodological approach.

> Interpretive inquiry "sees the meanings we live by as permeating and shaping the practice and institutions of others and the world 'out there' much as they belong to our 'inner life'" (Bishop, 2007, p. 71).

At present, many professional development programmes in Hong Kong tend to be situated in a traditional, transmission paradigm. This is something which does not resonate with me, as being a teacher is anything but stagnant – the school environment is ever-changing and the teaching field is constantly evolving. Education research is an on-going process; it is necessary to appreciate its inherent multi-dimensionality as discussed in the work by Richards (2003) and ultimately find ways to authentically represent its complexity. The nature of one person teaching many students on different days, acting and reacting according to class feedback, thinking in action, and learning

from students, as well as the issues of motivation, benefits and usability, cannot entirely be assessed by quantitative methods, as quantitative data only provide part of the picture.

As previously discussed, an interpretive perspective positions not only the observed world but also the subject observer within an enacted practice of manifesting the world (Morehouse, 2012).

> "The way we experience everyday life, values, and meaning are both in us and in the world around use" (Bishop, 2007, p. 71).

Furthermore, the meaning of words cannot be defined through dispassionate observation, but rather realised in the context of human activities (Harre & Tissaw, 2005). Much in the same way that knowing the word for a thing is different to knowing about a thing, and much in line with current research on the need for students to engage in contextualised learning, it is the interaction and negotiation of meaning that imbues the learning endeavour with its salience and weight. So it is also with the tenuous constructs of beliefs and perceptions.

4.2.2   Epistemology

In a similar way to the ontological framing of a contextualised reality previously argued for, the epistemological position of interpretivism argues for contextualised knowledge and considers the knower and known inseparable and closely intertwined, as individuals' understandings of the outside world they inhabit are generated from within, not from without (Cohen, Manion, & Morrison, 2011; Guba & Lincoln, 1994). It is this interplay of the hidden internal worlds of participants with externalised shared reality that makes interpretivism at once both exciting and complicated, given that these realities can often become what people believe them to be.

As discussed above, the professional identities of teachers may be quite complex, and their attitudes and beliefs related to these identities can often be difficult to quantify. It is for this very reason that the present study has been conceived as such, featuring a heavy emphasis on exploratory qualitative data in the form of open-ended questions. It is hoped that through this process of allowing the participants to express themselves, involving the role of the interviewer in co-construction of this identity and the knowledge which it necessarily encodes, the social process of conversation will provide an emergent expression of identity and knowledge not possible to represent or capture in a more purely objective manner.

Therefore, to fully reveal the complexity of PD we need to understand and interpret teachers' everyday events, experiences and what they value. This will be achieved by carrying out a two-phase study (Creswell, 2014) to unveil the complexity of PD, offering depth to the research beyond the capabilities afforded by purely quantitative data. Consequently, adopting an interpretivist paradigm will enable me to "unpack" teachers' attitudes and beliefs reported in both questionnaires and semi-structured interviews, and supplement the study and reveal the complexity of PD, offering a depth to the research beyond what quantitative data alone could supply. Consequently, to reach an interpretive understanding or *Verstehen* is only possible through the mediation of language, and further, as a result of analysis which is not purely quantitative (Schwandt, 2007). As I researcher, I try to make sense of what is happening, and knowledge based primarily not on conscious judgment but rather contextualised meaning is the result of these interpretations.

4.3   Methodology and research design

4.3.1 Methodology

In the literature, research methodology is central to the validity of the research project, and it occupies a central place in terms of the researcher's overall approach (Leedy & Ormrod, 2010; Babbie & Mouton, 2008). As noted above, this study is carried out within

the interpretive paradigm, as my primary aim is to uncover these mental constructs in others, and so it is incumbent to do so through the lens of their experiences and lived realities of these constructs.

For the present research, I find Carter and Little (2007) to be particularly instructive, as the researchers argue that methodologies are a means by which to ratify the justification of the methods themselves, and further to codify the data produced and analysis undertaken. In taking this into account, I employed an exploratory mixed-method research design, to provide a high level and comprehensive way to understand the emergent phenomena (Morehouse, 2012) and to focus on understanding the perspectives of the TESOL teachers in tertiary institutions in Hong Kong, and not in establishing a determination of a person or phenomenon.

4.3.2   Research design

One common way to characterise a research design could be as the overarching view or strategy involved in carrying out the research (Welman et al., 2009) where there is a tight coupling and intersection of both procedures and methods in the pursuit of a reliable and defensibly valid data source of an empirically-based and principled analysis. With these complex intersections of the data inherent in the research design, it is easy to see why the exact question of the shape of my research design was not a simple one, nor was it trivial to settle on a comprehensive and thorough approach. However, in the following section, I attempt to provide my thoughts on how and why I settled on the particular design decisions that I did.

As noted earlier, the present study will adopt the approach of an exploratory mixed-method design, which is preferred to alternatives in the given context due to its potential to reveal the complexity of PD, where the qualitative data is used to inform, clarify and build on the initial quantitative data, occurring across two separate phases (Creswell, Plano Clark, Gutman, & Hanson, 2003) to create a holistic understanding. I found this to be particularly productive, as did Yanchar and Williams (2006), when they argue that

two modes of inquiry, quantitative and qualitative, can be used together if they are found compatible. In addition, Likert-type scales can be used as interpretive instrument when used in conjunction with qualitative data (Westerman, 2006). Following the work of Babbie (2013), I decided that this approach to data collection would provide the best chance to highlight where existing knowledge might be, in some way, deficient; and further, would allow for an iterative, cautious and intentional approach. A further key notion to keep in mind when collecting data in a mixed-method study within the interpretive paradigm is to collect complementary data in similar timeframes and maintain a focus on understanding and actions (Morehouse, 2012), and this is what I have tried to accomplish in this study, pairing the questionnaires with the interviews in as timely a manner possible.

It should be noted that this study employs an explorative mixed-method research design within the interpretivist framework and that the emphasis is on the qualitative data. The important and salient characteristics of this type of qualitative research are extensive use of descriptive data, with an emphasis on the process through which the research proceeds rather than purely on the outcome, a basis of reasoning via induction – from example to principle, as well as the fundamental drive for meaning (Ivankova et al., 2006; Creswell, 2009; Leedy & Ormrod, 2010; Kumar, 2011).

4.3.3 Participants

This study adheres to a convenience sampling approach as it is a commonly used approach in qualitative research (Yates et al., 2012), such as the present study. In contrast to quantitative approaches that emphasise randomisation for rigor, it concerns "the selection of the most accessible subjects" based on availability, ease, speed and low cost (Marshall, 1996, p. 523). In short, those who end up taking part in the interpretive research study are intentionally chosen as a small cohort in order to maximise the depth, rather than breadth, of the data and are often easily accessible to the researcher (Given, 2008).

One of the drawbacks of incorporating convenience sampling is that the sample might not be generalisable towards the larger population of tertiary English language teachers in Hong Kong. For example, I cannot be sure why certain teachers participated in the questionnaire and others chose not to. Perhaps, it was because of time constraints and the questionnaire interfered with their busy day-to-day teaching schedule. Or was it because they were not interested in ICT and/or PD? Did they participate out of kindness, or in service to face maintenance, to help a colleague? As it is difficult to answer these questions, the findings and interpretation of the study may engender criticism of the generalisability of the results for the entire population.

However, my assumption of my knowledge of the local context and the background of the tertiary teachers in Hong Kong is that the members of this target population are fairly homogeneous. That is, that there would be no difference in the results obtained from a random sample or a nearby sample for example (Robinson, 2014). As this study focused on rich, in depth data, convenience sampling was used to achieve a sufficiently elaborated understanding of the target population (Patton, 2002) at the potential expense of statistical generalisability.

It is this very aspect of the convenience sample which is its main strength, allowing it to serve the researcher in carrying out a thorough investigation with a relevant focus for the given research questions (Creswell, 2009). As Yates, Partridge and Bruce (2012) explain, the appropriateness of selection of participants in interpretive research should be based on "the appropriateness to the purpose of the research study, that is, they have experience of the phenomenon being explored" (p. 103).

As such, participants in my study are comprised of English language teachers from the seven major universities in Hong Kong: Hong Kong University, City University Hong Kong, Hong Kong Baptist University, Hong Kong Polytechnic University, Hong Kong University of Science and Technology and Chinese University of Hong Kong. The demographics of the teachers and students at these institutions are very similar to those at my present university: teachers average 10+ years of teaching, comprise mixed

nationalities and are a mixture of local Hong Kong and Western teachers, with students of roughly similar achievement levels in English. The participants therefore can reasonably be considered representative of the wider population of tertiary English teachers found in Hong Kong.

4.3.4 Recruitment of participants

Based on the convenience sampling approach outline above, the recruitment of my research participants in this study utilised the following steps. First, I contacted English language centres to obtain informal permission to access the research participants in order to conduct the questionnaire. After informal approval, I e-mailed the participants in December 2017 and invited them to participate in the online questionnaire, as this method should yield the highest response rate. A second email was sent one week after the first one to maximise the response level as suggested by scholars such as Van Mol (2016), and in total 58 participants from six universities in Hong Kong completed the questionnaire. Table 1 below (pg. 65) provides the demographic background of the participants who took part in the questionnaire. It details some descriptive statistics of the participants, including average age and teaching experience, as well as a tabulation of academic positions held and a breakdown by gender.

Table 4.1

Demographic Survey Participants (N = 58)

		Frequency (%)
Gender	Male	32 (55.2)
	Female	26 (44.8)
Age	21-35	10 (17.2)
	36-50	28 (48.3)
	51+	20 (34.5)
Workplace	A	23 (39.7)
	B	7 (12.1)
	C	5 (8.6)
	D	9 (15.5)
	E	5 (8.6)
	F	5 (8.6)
	G	4 (6.9)
Position	Instructor	27 (46.6)
	Senior Instructor	2 (3.4)
	Teaching Fellow	2 (3.4)
	Lecturer	12 (20.7)
	Senior Teaching Fellow	2 (3.4)
	Senior Lecturer	9 (15.5)
	Assistant Professor	1 (1.7)
	Other	3 (5.2)
Experience	1-10 years	10 (17.2)
	11-20 years	27 (46.6)
	20+ years	21 (36.2)

Further to the participants partaking in the questionnaire, 16 volunteered to participate in the semi-structured interviews. The discrepancy between those who volunteered, and the number eventually used as the data sample is a result of 4 of the participants being used during the trialling phase of the questionnaire and it was decided to exclude that

preliminary phase from the resulting data set. Table 2 (pg. 67) below outlines the demographics of the 12 participants invited, comprising institution, technology experience, academic rank and previous teaching background to provide a holistic overview of the research questions.

As noted above, the lack of generalisable results afforded by the convenience sampling is a legitimate deficiency. This approach, however, was still the best sampling approach for this particular study, given its focus on a fairly homogeneous population, which is unlikely to present significant variability in the case of alternative sampling approaches. Further, these other sampling approaches (e.g., random sampling), would have presented practical difficulties out of scope for the present study.

In addition, the self-selected nature of the participants may perhaps lend itself to valid criticism on the grounds that contrastive voices are not being heard. However, it may also be the case that those feeling most out of step with the current institutional efforts to incorporate ICT into the curriculum agreed to participate in order to voice these concerns. Again, the lack of explicit data collection along this potential axis of variability means I'm unable to definitively support or refute this possibility, and that is something which might prove a fruitful avenue for research in a subsequent investigation.

Table 4.2

Demographic Interviewee Participants (N = 12)

#	Pseudonym	Academic Rank	Institution	# years of Teaching Experience	Previous Teaching Background
T1	Jason	Instructor	A	15	UK, Thailand
T2	Ted	Instructor	C	8	USA
T3	Joyce	Instructor	F	16	Mainland China, Japan
T4	Monica	Instructor	E	6	Mainland China, Thailand, South Korea
T5	Jonathan	Lecturer	C	18	Hong Kong
T6	Andrew	Lecturer	G	20	Japan, Middle East
T7	Frank	Lecturer	E	10	Canada
T8	Jennifer	Teaching Fellow	A	11	South Korea, Japan
T9	Philip	Senior Lecturer	B	25	USA, Middle East
T10	Patrick	Senior Lecturer	D	14	UK
T11	Vivian	Senior Lecturer	E	16	USA, Middle East
T12	Mary	Associate Professor	B	25	UK

4.3.5 Participants' background and biographic data

Jason, Instructor, 15 years of teaching experience, previous teaching background UK and Thailand)
Jason is originally from the United Kingdom and has worked in Asia for the past 10

years. Prior to Hong Kong he worked in the United Kingdom, where he completed his

undergraduate degree, and Thailand at tertiary institutions. He has the typical TESOL

background with a degree in English and CELTA certificate. He moved to Thailand

because he wanted to travel around the region, then got smitten and decided to stay.

Jason feels he is quite easy-going in terms of professional development and doesn't

view it as adding any additional pressure to his job. He enjoys participating in

collaborative discussions with colleagues and learning what other people are doing in

the classes. He feels ICT can be beneficial in teaching, but it all depends on how it is

actually utilised in the classrooms.

Ted, Instructor, 8 years of teaching experience, previous teaching background USA
Ted is new to Hong Kong and previously worked as an ESL/EFL teacher at a

community college in the United States. He is very comfortable with online resources,

an avid user of Google and created his own website which he uses with his students.

He also believes in using various Google applications in is daily teaching. He is

currently pursuing a certificate to become a Google certified educator.

Joyce, 16 years of teaching experience, previous teaching background Mainland China, South Korea
Joyce is originally from the United States and has spent her entire teaching career in

Asia, having taught at two tertiary institutions during her time in Hong Kong. Describing

her approach to technology as "cautiously optimistic", she is easy-going and enjoys

tinkering with new teaching tools. She feels technology helps to connect to the students

better, as they are increasingly exposed to it in their daily lives. She believes we

shouldn't be afraid of trying new things as we all have been beginners at one stage and

can learn from our mistakes.

Monica, 6 years of teaching experience, previous teaching background Mainland China, Thailand, and South Korea

Monica is originally from Taiwan but completed her university education overseas and has taught in various tertiary institutions in mainland China, Thailand, and South Korea. She doesn't really believe that technology is everything that matters today and feels that her skill set regarding the latest technology tools is somewhat limited. She does feel one needs certain skills to use technology in her classes and is uncomfortable with looking unprepared in front of her students.

Jonathan, 18 years of teaching experience, previous teaching background Hong Kong

Jonathan is originally from the United Kingdom and has spent his entire teaching career in Hong Kong. He approaches English as something fairly simple and not overly complicated that needs a lot of technology input. He prefers a more traditional teaching approach and enjoys participating in informal PD where he can chit-chat with colleagues about what's new.

Andrew, 20 years of teaching experience, previous teaching background Japan and Middle East

Andrew is from the United States and worked in Japan and the Middle East prior to settling down in Hong Kong 10 years ago. He had taught in Japan for over 10 years before moving to the Middle East. Like many teachers drawn to TESOL he initially moved to Japan to experience the culture for a year or so before returning back to the States for his graduate studies. He is keen to try and learn more technology skills and he enjoys incorporating Google applications frequently in his classes.

Frank, 10 years of teaching experience, previous teaching background Canada

Frank was born and raised in Hong Kong but moved to Canada to complete his secondary and university education, and later worked in Canada for a few years before returning to Hong Kong. He thinks he is very busy with his daily teaching duties and complains of having no time to attend PD sessions. He also expresses feeling pressure to constantly update his skills and knowledge. In terms of the value of learning new ICT skills, he prefers something tangible, which he can incorporate directly in his lessons with the students.

Jennifer, 11 years of teaching experience, previous teaching background South Korea and Japan
Jennifer is Canadian and had worked 3 years in South Korea and 4 years in Japan before moving to Hong Kong. She also has a degree in business administration but later completed an MA in Education online and a teaching certificate while teaching in Japan. She doesn't feel like she is too busy to try new things but doesn't feel particularly motivated to tinker with new things on her own time. She much prefers attending PD sessions and learning collaboratively with colleagues, but does feel at times that she is uncertain about the value of her own research area.

Philip, 25 years of teaching experience, previous teaching background USA and Middle East
Philip is an American and previously worked at a State University in the US as well as a higher education college in the Middle East. He enjoys using the same technology as his students as he feels it improves the socio-affective context of his teaching. He doesn't mind sharing his knowledge with colleagues, and he often engages in informal chats with them either in the teachers' common area or during lunch. He is specifically interested in PD that is very hands-on and can be implemented in the language classroom without the need for too much theory.

Patrick, 14 years of teaching experience, previous teaching background UK
Patrick is from the United Kingdom and has worked in various institutions in Asia prior to arriving in Hong Kong. He has spent the past 5 years in Hong Kong, and and has worked at two tertiary institutions. He confesses mixed-feelings about technology and finds it quite a challenge to use it in his teaching. On the other hand, he also feels it can make teaching more convenient, as it removes the need for repetitive generation of materials. He states, however, that it is a pressure to keep thinking about how to integrate it in his teaching.

Vivian, 16 years of teaching experience, previous teaching background USA and Middle East
Vivian is an American and previously worked in the United States as well as the Middle East prior to transitioning to Hong Kong. She firmly believes that PD is something that should be organic and not bureaucratic, preferably happening on its own without the

need for top-down pressure. On the other hand, she recognises the place for funding coming from the institutions. She enjoys trying out new ICT tools and is constantly looking for something exciting and different. She feels it is ok to ask students for technological help and that one shouldn't feel embarrassed to express a lack of knowledge, given it is a good model for her students to emulate.

Mary, 25 years of teaching experience, previous teaching background UK
Mary was born and raised in Hong Kong and moved to the United Kingdom to complete her higher education. She is an avid reader and looks to her colleagues to suggest good PD sessions to attend. She thinks technology can help students to be more actively involved in the language classrooms and is open-minded and hands-on with tinkering with new tools. She has a quarter-century of experience in the profession and seen multiple trends emerge and fade away, though admits that integrating ICT is not likely to become less common any time soon.

4.4   Data collection procedure

4.4.1 Importance of piloting

To increase the likelihood of success in collecting data I piloted both of my instruments in order to pre-test and assess them (Rothgeb, 2008). Piloting is imperative if we want to be successful in collecting meaningful and rich data from our participants, as it might provide advance warning where, for example, the questions and/or format may be inappropriate or too complicated. This was especially pertinent in my case, as teachers came from seven different universities in Hong Kong and it was important that they understood items in a roughly similar and consistent manner. It should also be noted that piloting is of further benefit to the researcher in providing accelerated feedback on the methodological techniques employed in the study, able to highlight issues which might be addressed and corrected prior to the full-scale data collection phase of the study.

4.4.2 Piloting the questionnaire

I followed Oppenheim's (1992) notion that everything about the questionnaire should be piloted. After I designed the questionnaire, I asked seven teachers (one from each university) to complete the questionnaire and provide feedback on areas including, but not limited to, clearness of the individual items, the instructions, the visual layout on the page, any potential ambiguities of problematic wording, the intelligibility of the text, specific question types and formats, average completion time, platform and complexity. I analysed their responses using descriptive statistics to increase "reliability, validity and practicability" (Wilson & Mclean, 1994, p. 47) and questions were deleted or rephrased to eliminate ambiguities as a step towards finalising the questionnaire (Dörnyei, 2015).

One of the main challenges was that the pilot group reported the questionnaire took about 10-15 minutes to complete, which was too long according to the respondents (see Rolstad, Phlic & Ryden, 2011). Thus, I took time to carefully reflect on the questions and other aspects to ensure I would still collect useful data, even though I had combined and omitted answer items, and I had to pilot my questionnaire twice with the same seven teachers. After careful consideration, the final version I settled upon took respondents approximately four minutes to complete.

4.4.3 Piloting the interview

I used two participants (not among the final 12 interviewees) who had agreed to be interviewed as a preliminary piloting of sorts, intended to get formative feedback as to the effectiveness of my general questions in generating data I could use, as well as serve the very useful function of getting more practice for later interviews. I took notes during these interviews (as well as during the subsequent interviews) and listened and transcribed the two interviews instantly after the interviews were conducted. I felt that they had provided useful data, but I had missed identifying emergent opportunities to probe further and could have structured the questions better to elicit deeper information. See below for exchange:

Researcher: *What's your impression of recent professional development workshops on Blackboard?*

Monica: *Not really useful, as I'm limited in what I can actually do on the BB site as an instructor.*

Researcher: *I see. Have you attended any other PD in ICT that were more suitable for your job as an instructor?*

In the above exchange, I missed the opportunity to delve deeper into the issue and probe what she would like to be able to do on Blackboard.

Therefore, it was clear to me that I had to update the interview schedule so as to provide for more open-ended questions with less enforced overt structure. Additionally, as I listened to the first two interviews, it became readily apparent to me that I had not incorporated as much active listening strategies as I had intended, and definitely could have made more use of positive affective feedback (e.g."um-mm", "yes…", "right…" etc.) intended to maintain conversational momentum and rapport.

I believe by incorporating active listening strategies in the subsequent interviews, I was able to successfully position myself as a partner in the shared construction of the very data I sought to investigate; an aspect I identified early on as absolutely crucial to the design and methodological architecture of my study. The remaining 12 interviewees (data used for analysis) dealt with questions which had been standardised in accordance with the feedback and revised appropriately (Robson, 2012).

Finally, the data collection tools were sent to my research supervisor who very kindly provided ample constructive feedback on them and asked me to rephrase, rearrange, and omit certain items and to clarify others. This was of great benefit both to me as a researcher and to the overall strength of the study, as has been noted in the dedication.

4.4.4 Questionnaire considerations

Turning to the design of the first main research instrument I used, I will now outline the considerations and reasoning behind the details of the questionnaire. I began by employing a questionnaire with closed-ended questions, given its potential to be time-efficient, resulting in responses which are easy to code and interpret, and which are straightforward to analyse (Krosnick, 2018) with the added benefit of focusing responses moreso than open-ended questions.

The aim of the phase was the identification of the salient variables of teachers' attitudes, beliefs, perceptions, views, and experiences highlighted in the research questions, as well as assisting in principled selection of question focus for the second phase of the study, namely to "set the scene" (Tatzl, 2011), for the semi-structured interviews. The emergent themes acted as a catalyst and jumping off point for the later interviews, informing the choice of discussion topics. In my review of the literature, I found that it is common for questionnaires to be used in this way toward unearthing teachers' beliefs and attitudes (Eickelmann & Venneman, 2019).

As participants and I are colleagues (in some instances), this type of questionnaire provided additional anonymity and respondents were hopefully more truthful. Moreover, there was no need to conceal their real feelings and provide misleading data, as there might be in a face-to-face encounter (Leedy & Ormrod, 2010). The questionnaire was completed at the participants' convenience during the academic year 2017-2018.

4.4.5 Questionnaire design

Subsequent to setting out my research objectives and giving careful attention to the foregoing issues, I was able to develop a questionnaire based on similar relevant studies dealing with PD issues, such as Mak (2010), Goodall et al. (2005), Garet et al. (2001), Van Veen et al. (2012) and Van den Berg et al. (2014).

Turning back to the practical details of the questionnaire, I found that Oppenheim (2008) recommends fixed-choice questions to maximise time and minimise the volume of feedback that "fill-in-the-blank" questions may require, and this seemed very reasonable, as I had already found my initial questionnaire was too long. The questionnaire consisted of 10 closed questions using a Likert scale and two additional open-ended questions which can be clustered into five wide-ranging thematic categories.

The first group, which includes Q1-Q6, seeks to determine participants' background information, including current position at their workplace, number of years of teaching experience and in what countries previously they have worked as an English instructor. The second category (Q7) was designed to elicit responses of what professional development in ICT skills teachers have engaged in during their professional careers, such as workshops, short courses and publications, to mention a few. This section, among all others, seemed key in being able to elicit points for further elaboration in the interview.

The third category (Q8) sought to ascertain participants' opinion of usefulness of professional development modes for enhancing their teaching. This category was assumed to possess a slightly higher affective response in the participants, given that they are not often asked to give critical feedback on programmes prescribed by the institutional administration. It was hoped that they would be able to answer honestly, but at the very least, this particular category was intended to spark further discussion in subsequent interviews.

The fourth category (Q9) aimed to shed light on what attitudes and beliefs teachers have in terms of integrating ICT in their teaching. Similar to the third category, this one was judged as having a very high potential to be face-threatening, given that teachers do sometimes ascribe their own inability to effectively incorporate ICT (or any new methods, for that matter) into their classroom to external circumstances and lack of institutional support. The participants would have all been made very aware of the

nature of the overall study, as well as the specific benefit their unbiased and honest feedback would provide.

The fifth category (Q10) explored to what extent teachers perceive the usefulness of professional development activities in integrating ICT in their teaching. As the questionnaire used a Likert scale, which risks the possible oversimplification of issues (Hyrkstedt & Kalaja, 1998), an effort was made to account for any "forced-choice" effect associated with the Likert scale. Space for additional comment was provided (Q11) to provide the participants the chance to add anything in relation to professional development incorporating ICT, serving to augment the quantitative data with free-form qualitative responses, and it was pleasantly surprising to see that 15 comments were actually made. The final question of the questionnaire asked participants to provide their contact information if they would like to participate in the follow-up semi-structured interviews, resulting in 16 participants doing so, and 12 being invited based on years working in Hong Kong, technology experience, and background.

Overall, this questionnaire (see appendix 1) provided a general though helpful window into the institutional context at the seven universities in Hong Kong. It also served as a way to collect contact details of 16 teachers who agreed to a follow-up interview.

4.5   Interviews

As indicated above, one-to-one semi-structured interviews were conducted with 12 participants at tertiary institutions in Hong Kong. Following the interpretive paradigm, I assumed that a thorough interrogation of the rich and multi-faceted description of the nature of professional development in relation to ICT would be possible within the framework of the semi-structured interviews as demonstrated in the work of Kvale (2007).

Such interviews have been called "the soul of qualitative research" (Hutchinson & Wilson, 1992) and provide numerous strengths as compared to alternative means of

data collection, namely that they afford the researcher the opportunity to interrogate and unpack people's attitudes, beliefs, and subjective experiences (Kvale, 1996), and target more precisely what is "in and on someone else's mind" (Patton, 1990, p.278).

As discussed, the questionnaire played a major part in the study "to set the scene", but the principal data collection method was the semi-structured interview. The questionnaire and the follow-up interviews were selected as the preferred methods as they are adaptable and flexible (Verma & Mallik, 1999) and as the best method to explore participants' answers and unpack their hidden meanings from the questionnaire, to let interviewees to "speak in their own voice and express their own thoughts and feelings" (Berg, 2007, p. 96).

4.5.1 Development of interview protocol

The interview protocol was informed by my four research questions and the results analysed from the preliminary questionnaire. I was further able to bring my interest in the subject and my awareness of the professional development in ICT in the researched context (see chapter 1 and 2 for rationale and context) to bear during the course of the analysis. As discussed in chapter 3, there are numerous considerations for the collection of interview data, and these informed the interview protocol I chose to employ.

In order to understand and interpret professional development in ICT skills, and to preserve the conversation and inquiry goals of the research act, I included four types of questions: (1) introductory questions, (2) transition questions, (3) key questions, and (4) closing questions following work by Creswell (2007), Krueger and Casey (2015), Merriam & Grenier (2019) and Rubin and Rubin (2012) as I structured my interview protocol.

I decided to take contemporaneous and systematic hand-written notes during the interviews to help me remember what was said throughout directly on the interview guide (see Appendix 2), similar to the method employed by Best and Khan (1998) and

Saunders (2003). This helped to identify what I should follow-up later in the interview as well as help me to write a summary of the sequence of events for each interview (see Appendix 3). At times, I noticed that some of the interviewees looked very closely at what I was writing down, and it was a bit disruptive, so I decided to postpone any note taking until the interview was completed.

4.5.2   Interview procedure and technique

After 12 participants had been identified to be interviewed based on years working in Hong Kong, technology experience and background, they were contacted via email (they had provided their contact information in Q12 in the questionnaire) to arrange the interviews. At this stage, I confirmed with each participant their continued willingness to take part in my research study. I further described the ultimate goal of the research and made it clear that the oral interview would take about 30 to 40 minutes, and further that I would be recording it in order to make a faithful transcription of their comments to serve as data for analysis in the research. I reiterated to each participant that they would not be identified by name in the published research, and rather, that pseudonyms would be used in place of their name as well as obfuscation of their institutional affiliation so that their identities would not be disclosed. Lastly, I assured them that they would have access to copies of the eventual transcripts, so that they would be able to look them over if they wished, and of course suggest clarification, if and when necessary.

Following this, all 12 participants agreed to participate in the interviews. They were given the choice to decide on both the time and place where the interview would occur, in an effort to put them at ease. Eight of twelve participants asked to be interviewed at their university whereas four wished it to take place at a neutral location. A copy of the consent and information sheet, interview protocol and the contact detail of the researcher were provided to each interviewee for possible future enquiries at this stage. During my meetings with the participants, and prior to the interviews, I again clarified the preceding information as well as provided them two copies of the consent and

information form for signing (see appendix 4). Each participant was allowed to keep one copy for themselves, and another copy remained with me.

4.5.3 Transcription of interviews

In the literature, there exists some debate as to whether there is a need for a word for word transcription of the entire interview, or rather, as echoed by Hewitt (2007), that such a thing may not even be possible. However, as a researcher I feel it is important to work closely with the data, keeping as faithful as possible to the original interview, and it gives me a chance to reflect on the interpersonal exchange, as well as delve into the themes as they emerge on the transcript (see appendix 5).

The 12 interviews were transcribed by myself even though transcription, here deemed a necessary undertaking, despite being what Bevis (1949, p.631) refers to as "troublesome" and "time-consuming". In a sense, I do feel proud to join the long line of researchers having engaged in this "exacting and tiresome task", as described by Butcher, Fritz, and Quarantelli (1956, p. 436). Further, after having done so, I most definitely concur with Dickson-Swift et al. (2007, p. 337), who expressed that transcribing is "an important first step in the data analysis".

The process of transcription is an important research method and should not be considered mundane or a simple technical procedure, but instead an integral aspect of what Lapadat and Lindsay (1999) refer to as the "tape-transcribe-code-interpret chain", and forms, in the words of Bird (2005, p. 227), "a key phase of data analysis within the interpretive qualitative methodology." It should therefore be recognised as an *interpretative* act, in which the participants' experiences and understandings are co-constructed with the researcher, beyond merely being an objective process of converting sounds to written words (Lapadat & Lindsay, 1999).

Table 4.3

Summary data collection methods and the procedures

Research Questions	Data Collection Methods	Data Collection Date	Data Analysis
1. What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged to develop their ICT skills?	Questionnaire Semi-structured interview	December 2017 January 2018–February 2018	SPSS (descriptive analysis) Qualitative content analysis (thematisation)
2. What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?	Questionnaire Semi-structured interview	December 2017 January 2018–February 2018	SPSS (descriptive analysis) Qualitative content analysis (thematisation)
3. What are these tertiary English teachers' attitudes and beliefs about integrating ICT in their teaching?	Questionnaire Semi-structured interview	December 2017 January 2018–February 2018	SPSS (descriptive analysis) Qualitative content analysis (thematisation)
4. To what extent do tertiary English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in their teaching?	Questionnaire Semi-structured interview	December 2017 January 2018–February 2018	SPSS (descriptive analysis) Qualitative content analysis (thematisation)

4.6   Data analysis – interpretive study

The data collected from the two-phases were inductively analysed, as opposed to following a deductive approach entailing the need for emergent constructs, during the process of research from the data themselves (Cohen, et al., 2000) in accordance with the interpretive paradigm. As opposed to a focus on pure numbers, seeking to show a relationship of statistical significance, the qualitative data, which are usually words (Carter & Little, 2007; Hadjistavropoulos & Smythe, 2001), were primary for this study. The full exploration of the details and specifics within the data identified helped to explore important categories, themes and inter-relationship.

As qualitative data is rich in terms of narration and description, I as a researcher tried to capture the experiences, perspectives, voices and meanings of the participants while seeking an understanding without judgment. This type of research has been called investigation utilising language instead of math (Willis, 2008). As such, a study based on qualitative data analysis concerns itself with methods that are not necessarily statistical and sample sizes which may be smaller than those in other research traditions, though these are intentionally selected to be as such (De Vos et al., 2011).

4.6.1   Questionnaire data

For this study, quantitative data consisting primarily of numbers were analysed using descriptive, quasi-statistics (Becker, 1970) through the use of the Statistical Package for the Social Sciences (SPSS). The survey was carried out online using *SurveyMonkey* (an online survey mechanism) and the results migrated to SPSS where they were cleaned and corrected. Different statistical analyses were conducted on different questions.

4.6.2 Statistical Analysis methods

To provide a bit of context on my decision to employ Likert-type scales for the analysis of the data from RQ1, RQ2, RQ3 and RQ4, it was primarily motivated by the work of such scholars as Westerman (2006), who showed that these scales can be used as an interpretive instrument when paired with qualitative data. Previous studies have found that if there exists a sufficiently large sample size (5-10 observations per group) and if the data is distributed in a normal (or nearly normal) fashion, parametric tests are appropriate for analysis of Likert scale ordinal data, and they provide robust tests (Jamieson, 2004; Norman, 2010).

Thus, parametric tests have been shown to yield robust unbiased answers that are acceptably close to "the truth" when analyzing Likert scale responses (Sullivan & Artino, 2013). It should also be noted that non-parametric methods are frequently used to analyse data unsuited to parametric methods, provided the distributional requirements of parametric methods are not met.

Moreover, skewed data are frequently analysed by non-parametric methods, although data transformation has the potential to make the data suitable for parametric analysis (Bland & Altman, 1996; Woodrow, 2014). In the present study, parametric methods such as t-tests and analysis of variance (ANOVA) were chosen as they are generally preferable given their ability to provide estimates and confidence intervals as well as generalise to more complex analysis (Altman & Bland, 2009) over non-parametric methods. With this background on the particular analysis choices vis-a-vis Likert scales, the chapter now turns to describing the reason and usage of statistical analysis methods pertaining to the quantitative data collected.

Data were imported into SPSS version 23 for analysis of all four research questions. To answer RQ1, frequency tables were used to present the survey responses of the five sub-questions of Q7.

To answer RQ2-RQ4, frequency tables were used to present the survey responses of the sub-questions of Q8, Q9, and Q10. Descriptive statistics such as mean, standard deviation, skewness, and kurtosis were used to summarise the response scores of the sub-questions for 1) usefulness of PD activities for enhancing teaching (Q8), 2) attitudes regarding integrating ICT in teaching (Q9), and 3) usefulness of PD activities in the use of ICT (Q10). Normality of the data was determined using the z-scores of skewness and kurtosis. A value of the score greater than 3.29 or less than -3.29 (two-tailed alpha levels of 0.001) indicated the data were not normally distributed (Fidell & Tabachnick, 2003).

Furthermore, to determine if there was a difference in 1) usefulness of professional development activities for enhancing teaching (RQ2, Q8), 2) attitudes regarding integrating ICT in teaching (RQ3, Q9), and 3) usefulness of professional development activities in the use of ICT (RQ4, Q10), between males and females, among subjects in different age groups, and among subjects with different teaching experiences, 2-sample t-tests (for gender) and one-way analysis of variances (ANOVA) (for age group and teaching experiences) were performed. Two-sample t-tests were used, as the purpose was to compare two independent groups (males vs. females) to see if their mean response scores for the sub-questions were different. The one-way ANOVAs were used to determine whether there were any significant differences between the means of two or more independent groups (age groups and teaching experiences, each three levels). If the results of the ANOVA were significant, a single-step multiple comparison procedure, Tukey's HSD (honest significant difference) test (Field, 2013), was performed to compare more than one pair of means simultaneously in order to see at which two levels the significance occurred. For all analyses, a p-value less than 0.05 was considered significant.

Both t-test and ANOVA required the data to be normally distributed (examined via z-scores of skewness and kurtosis). Additionally, for ANOVA, homogeneity of variances (examined via Levene's test) was required. An outcome of violated assumptions leads us to proceed, though after justification based on the bootstrap approach available in

SPSS version 23. As noted in the work of Field (2013), this approach utilises a repeated resampling of the original sample as opposed to the population itself. This allows for a statistical inference devoid of assumptions of the particular distributions (e.g., homoscedasticity and normality). Further, this resampling technique has support for testing results of the outcome of parametric statistical tests in cases of violated assumptions of the parametric tests (Field, 2013). Such an analysis using 1,000 resamplings implemented in SPSS version 23 provided evidence for the robustness of the parametric approaches (t-test and ANOVA).

4.6.3 Interview data

As opposed to the quantitative data collected, the qualitative data for this study consisted of "rich" data in terms of words from the interviews which were transcribed, coded, and categorised. This data gathered was used to support and shed light on the quantitative data and was analysed by hand, as I felt this would allow me to maintain "closeness" to the data, as espoused in the work of Halcomb and Davidson (2006). There are several qualitative data management software packages, for example Nvivo, which can "be a tremendous aid in data management and the analysis process" (DiCicco-Bloom & Crabtree, 2006, p.319), however, as my sample size was relatively small, manual coding and interpretation were suitable given my desire to work closely with the data.

4.6.4 Thematic analysis

As I am fairly new to qualitative research, I opted to use thematic analysis as the method of identifying, analysing and reporting patterns in the data. According to Boyatzis (1998), this type of analysis proceeds in three consecutive phases: 1) seeing (i.e. picking up themes in the original data); 2) encoding or "seeing as" (i.e. getting a sense of the patterns and groupings); and 3) interpreting the themes with respect to a particular framework. Thematic analysis can be used across philosophical stances or

theoretical frameworks and yields a general overview of this information through repeated handling of the data (Braun & Clarke, 2006).

This decision was made with consideration for the other competing approaches to this type of analysis, and after careful consideration, I determined that they were necessarily insufficient to fulfill the particular requirements given my intended type of data, and my rationales are detailed below. There is also a more elaborated section (section 4.6.8) below expanding on the particular stance of reflexivity that I am taking with respect to the collection and interpretation of the data.

Whereas interpretive phenomenological analysis (IPA) is better thought of as a methodology (Larkin, Watts, & Clifton, 2006) and gives us a complete framework to follow while undertaking research, it was initially high on the list as possibly productive, though after further consideration, it proved too distant from the actual interaction of the interview. I needed something more concrete and present.

Grounded theory is also considered a methodology with an inbuilt theoretical framework and espouses the use of a particular type of research question, method and analytical procedure (Birks & Mills, 2001). Thus, the grounded method also seemed a bit too a-priori, in that I would need to ascertain the type of analysis before actually collecting the data, and this struck me as putting too many constraints on the types of expression possible to arise in the course of the interviews.

Thus, I decided to use thematic analysis to help identify and analyse patterns in the data I collected, in a flexible manner without being boxed in to a specific methodology. As mentioned, thematic analysis is an inductive technique, and it should be noted that it does not start from "zero", but is instead guided by previous ideas and perspectives (Gibbs, 2007). In the case of my own particular approach to the analysis, it is unavoidable that my personal and professional experiences in Hong Kong, not to mention my own cultural background, will have had an influence on this process. I made

every effort to approach it from the perspective of a dispassionate observer, though achieving full objectivity is a bit difficult.

In my thematic analysis process, I followed Braun and Clark's (2006) checklist as illustrated in table 4.4 below:

Table 4.4

Thematic Analysis Checklist

Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the recording for "accuracy" (member-checking).
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples, but, instead, the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
Analysis	7	Data have been analysed rather than just paraphrased or described.
	8	Analysis and data match each other – the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organised story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.

Thematic analysis is a flexible method (Reicher & Taylor, 2005), and this is one of the primary motivators for choosing it in the present study. During my application of this analysis, I chose to focus on the emergent similarities between the themes, as well as their differences and the complex interplay between them (Gibson & Brown, 2009). In

an effort to be clear and transparent in conveying the specific steps of my data analysis, I present the details below.

4.6.5 Coding the data

I first read the transcription of the semi-structured interviews to familiarise myself with each individual respondent's answers as well as gain a higher-level understanding of all the responses as a whole. I carefully read over the dataset as a whole, once through, prior to any coding, and this was primarily as a means of shaping the higher-level identification of possible patterns. While undertaking this initial reading, I read the transcripts in an active way, taking initial notes in the margin and marking down ideas for coding following Braun and Clark's (2009) notion of a theme which "captures something important about the data in relation to a research question" (p.82). This depends on the "number of instances of what proportion of your data set needs to display evidence of the theme for it to be considered a theme" (Braun & Clarke, 2009, p.82). To clarify, a researcher's discretion should be applied in deciding what themes relate to the study question, and I manually annotated the transcripts throughout to generate codes (see appendix 6).

The following mind maps are meant as representative samples of the types of quotes present in the transcripts, and are not intended as an exhaustive list of the same. One transcript is reproduced in full in the appendix.

This initial reading was very helpful to begin to form preliminary ideas about the different themes that were emerging in the transcripts. There was a clear trend of discussing the different modes of PD, with a further delineation between the formal and informal modes of PD. There seemed to be general agreement and consensus amongst the teachers who participated in the study that formal forms of PD were an ever present reality of their professional lives. Many of them mentioned encountering these forms of PD at the various posts and institutions they had occupied over their careers, and it was one of the threads that seemed to occur in every single interview. In terms of particular forms

of these formal activities, multiple interviewees spoke about conferences, workshops, seminars, sharing sessions, and academic journals:

Figure 4.1 Mind map – Different modes of PD
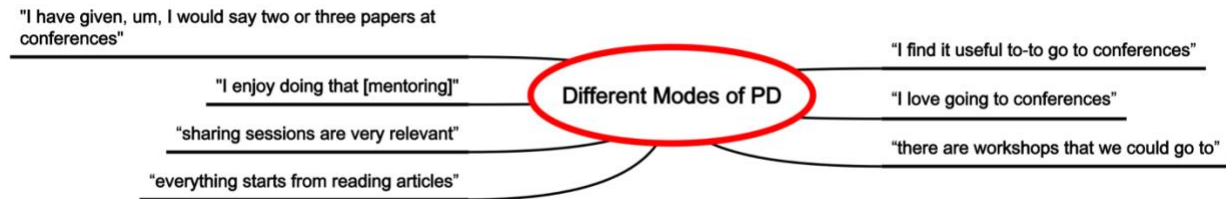
Similarly, interviewees mentioned more informal types of PD in almost equal measure. This was a feature of every single interview, and taken together with formal PD, it forms the central thrust of the thematic clustering. Interviewees seemed to very much enjoy their time spent informally working on their development with colleagues, and, as opposed to the more formal forms of PD, this more informal variant received near universal praise. There were no examples of negative experiences that arose during the course of the interviews. In terms of the particular activities mentioned, the teachers discussed reading on their own, as well as informal chats in the hallways and informally engaging in mentor relationships:

Figure 4.2 Informal types of PD
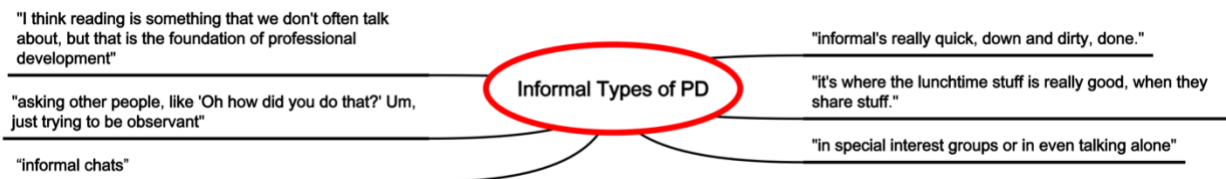
In addition, there was a clear theme that emerged centering around the more subjective categorisations of the PD experiences that the interviewees had undergone, mostly in terms of whether they were positive or negative. These experiences were not at all neutral, and even in cases where no overt emotional response was highlighted, it was clear from the language that the interviewees had firm evaluative judgments regarding the same. Regarding the previous two themes, it was especially interesting to see the

intersection of positive experiences with the informal PD as well as the negative experiences clustering around the formal types of PD. Topics contributing to this thematic grouping included conference presentations, cultural approaches to PD, hands-on activities and interactions with colleagues:

Figure 4.3 Mind map – Subjective experiences of PD
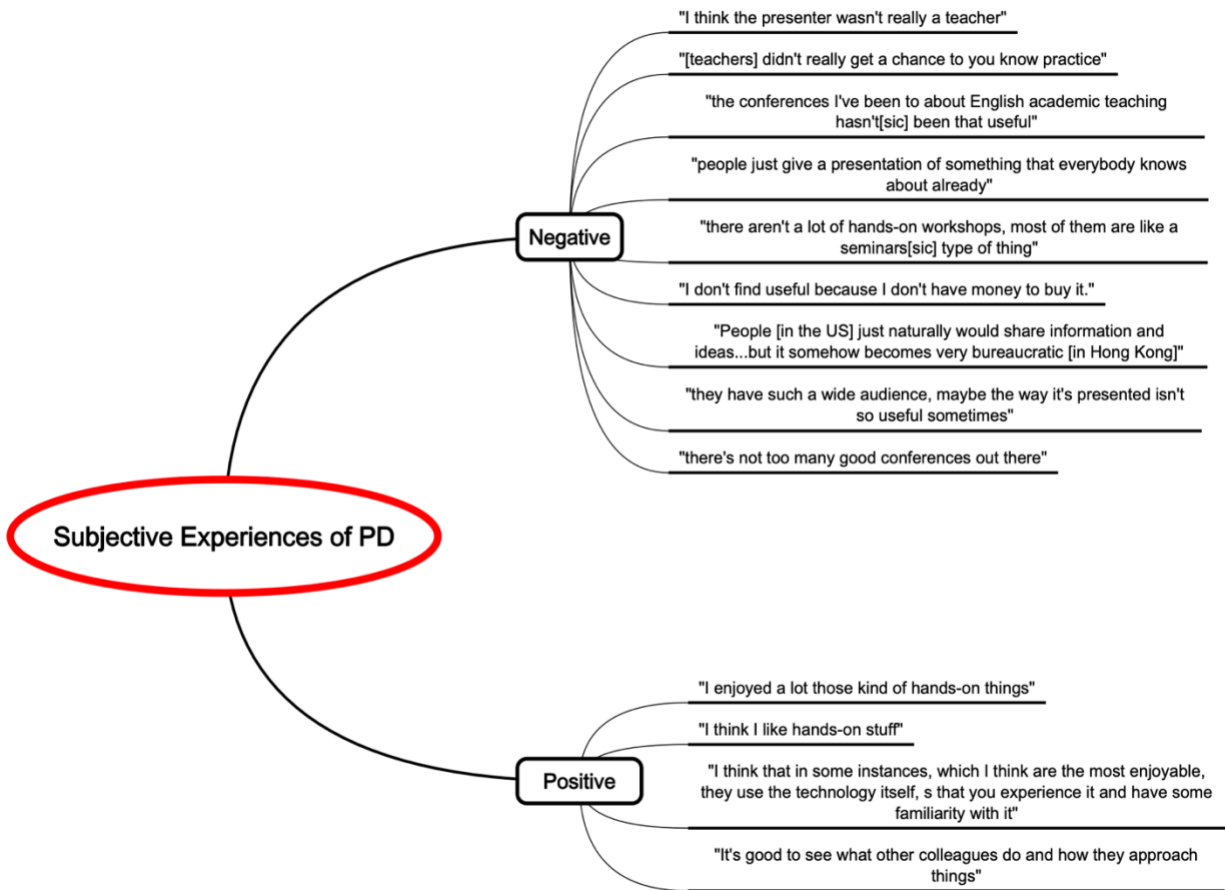
Many of the interviewees also discussed the pressures they were facing, and this emerged as a specific sub-theme cluster. Though some of the teachers seemed a bit reluctant to discuss this issue in particular, as we might expect given the cultural imperative to avoid imperiling face needs of either institutions or superiors, it was very clear from a review of the transcripts that this pressure was not experienced as a positive motivating factor, but moreso as a force to be accommodated. Topics discussed included perceptions of manager expectations, overt requirements for

promotion and advancement, and general expectations for increased integration of ICT in the classroom:

Figure 4.4 Mind map - Pressure
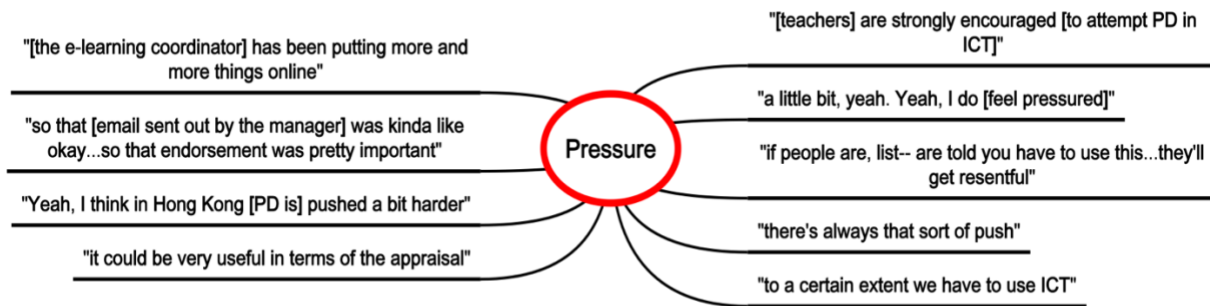
Motivations to attend different PD activities also seemed to represent a distinct grouping, and so formed an additional thematic category. Paralleling the discussion of the benefits and perceived usefulness of the formal/informal modes of PD, this theme primarily raised issues of no intrinsic motivation to attend formal PD activities, whereas there was a clear trend toward both intrinsic and extrinsic motivation to engage in the informal PD activities:

Figure 4.5 Mind map – Motivations to attend PD
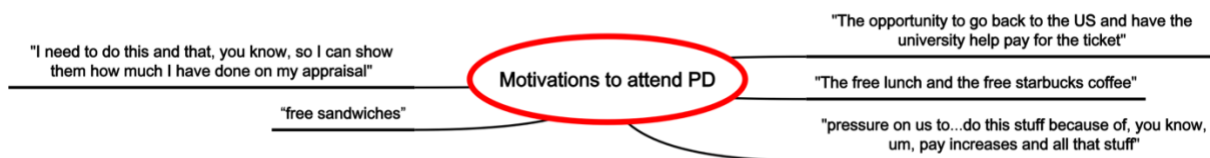
One of the clearest themes that came out of the initial readings was centered on the experienced outcomes, both positive and negative, of teachers' attempts to integrate ICT into the classrooms, and featured prominently in the transcripts. As might be expected, the teachers were very clearly focused on their students' ability to learn and engage with the material afforded by ICT. Interviewees also highlighted benefits for them personally, in that it eased their teaching burdens, a perhaps less pedagogical

benefit, but impactful, nonetheless. In terms of the challenges, responses tended to cluster around difficulties of working within time constraints, difficulties of managing the technology in the classroom and loss of control over student activity:

Figure 4.6 Mind map – Experienced outcomes
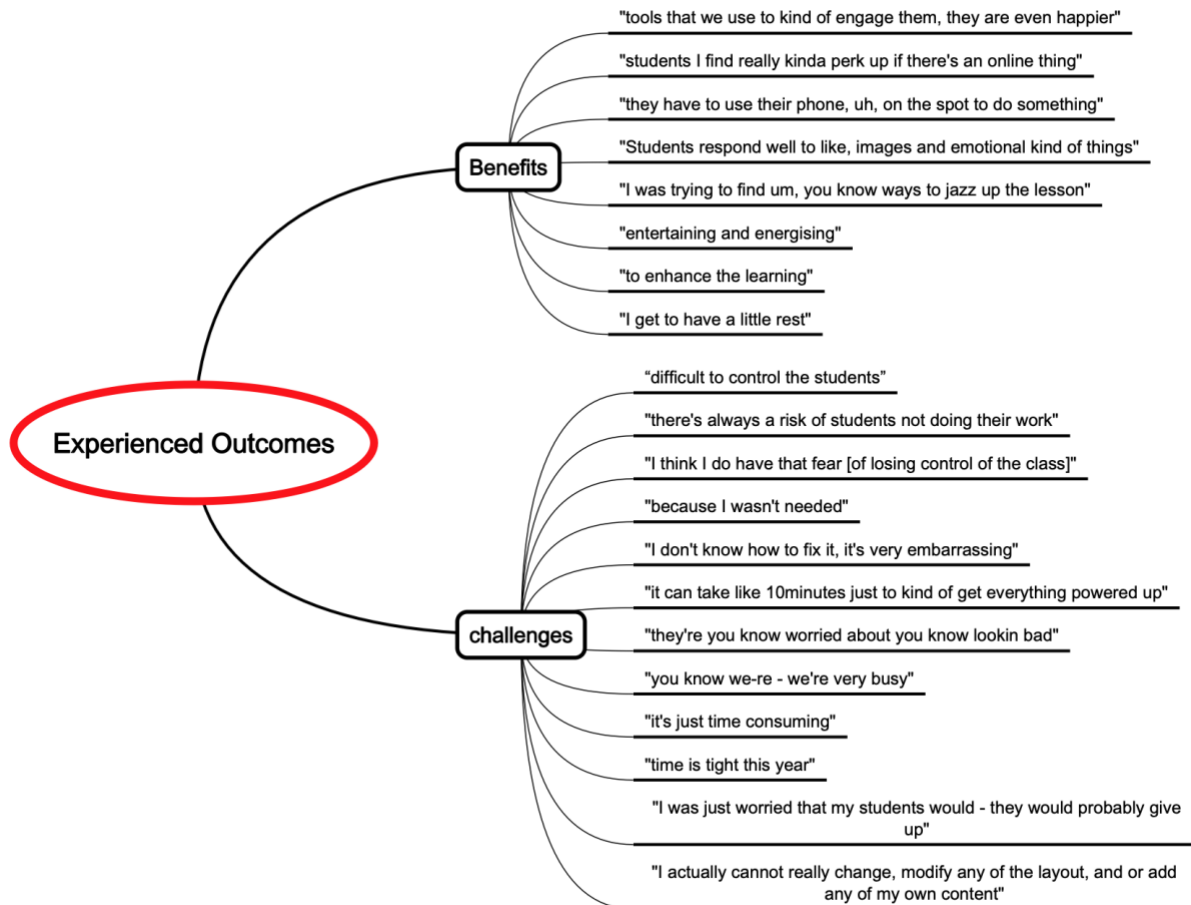
Also not surprisingly, teachers' suggestions for ways that the existing PD could be improved was a common theme among respondents. These tended to centre around ways in which conferences, and particularly workshops, could be made much more interactive and hands-on. Teachers clearly expressed a preference for PD activities in which they were able to actually try out the different ICT tools, particularly when this was accompanied by the in-person guidance of an experienced mentor. As a secondary cluster, there seemed to be a definite strand of desire for greater autonomy in PD, with

teachers seeking more ability to direct their own PD. Lastly, it seemed that the quality of the PD was much more important to the interviewees as not a single one mentioned increasing the number of sessions, or otherwise recommended increasing quantity of PD:

Figure 4.7 Mind map – Existing PD improvement
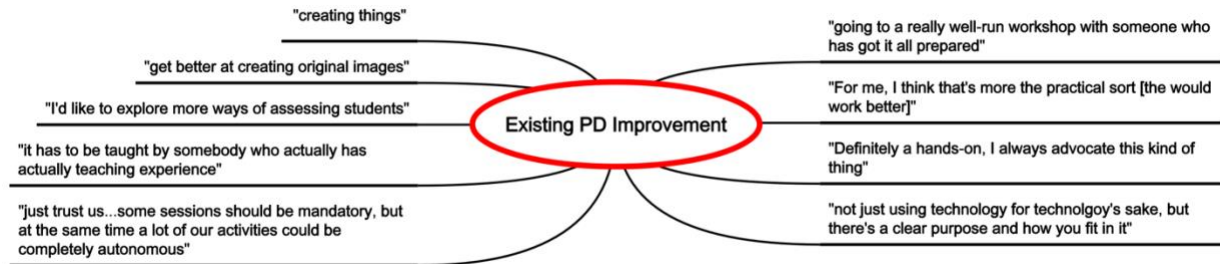
In the second phase, I read the transcripts a second time and started to code and highlight particular features (e.g., the semantic content) that appeared pertinent and assigned the topic an identifiable code (see appendix 6). It should be noted at this stage, the act of coding can be considered an intrinsic aspect of the data analysis (Miles & Huberman, 1994), given that it relates to the organisation of the collected data in groups that are structured around meaningful distinctions (Tuckett, 2005).

Again, as I read through them, I was careful to record my notes on the transcripts to indicate potential patterns. After I had decided on the specific codes to use, I matched them with the corresponding data extracts which I felt best exemplified the core themes (data related to in-house professional development was categorised as in-house PD modes). It should be noted that at this stage all that text data had been fully annotated with codes, and these were collated by similar code. This process involved taking the data extracts from the individual transcripts and copying and collating them into a word file divided into topic, themes and categories (see appendix 7). At this stage, I intended to cast a wide net, coding for a multitude of possible patterns, expecting to narrow them down afterwards (retaining a little of the surrounding contextual data which was relevant).

Once this was completed and an extensive list of codes emerging from my analysis of the data set had been established, I started to re-focus my analysis at a higher level, identifying the more broadly overarching themes present, rather than remain too focused on the individual codes themselves. This meant that I explicitly enumerated all potential themes, and organised the codes along those lines, considering the various ways that the codes could potentially be combined and shuffled to compose cohesive themes.

Finally, as I had iterated through my analysis as far as possible, and my refinements were not adding anything substantial, given that the process at this stage was only fine-tuning, I decided to stop coding. This step culminated in finalising the themes and categories where I wrote statements that described my personal interpretation and summarised the findings within each category (themes, categories, and research focus).

Figure 4.8 Mind map - Summary

Formal PD
- conferences
- in-house PD/workshops
- action research

Engagement in PD activities in ICT skills (RQ1)

Informal PD
- reading professional literature

Institutional Pressure
- lack of voice
- lack of autonomy
- top-down

Engagement in PD activities ICT skills (RQ1)

Engagement in PD activities ICT skills (RQ1)

Instructor Agency
- attitudes and beliefs

Attitudes and beliefs – modes of PD/ICT – enhancing teaching (RQ2)

Motivations for Participation
- freebies
- continuous learning
- pressure

Attitudes and beliefs – modes of PD/ICT – enhancing teaching (RQ2)

Integration
- student engagement
- teacher engagement

Attitudes and beliefs – integrating ICT (RQ3)

Summary

Teacher Skills
- feeling overwhelmed by technology
- computer skills
- confidence to teach

Attitudes and beliefs – integrating ICT (RQ3)

Practical Application
- discussing with colleagues
- socio-affective learning

Usefulness of PD Activities – attitudes and beliefs – integrating ICT (RQ 4)

Usefulness of PD Activities – attitudes and beliefs – integrating ICT (RQ 4

PD Interactivity
- practical experience
- knowledge-based outcomes

Below I have included two examples of my qualitative interview manual coding. Three short excerpts are included in Table 4.5 below:

Table 4.5

Example of qualitative interview manual coding 1

Interview	Coding
Jennifer: *…um, because people are so busy these days.*	Time
Ted: *…Uh, I think time is tight this year 'cause I'm the un, new staff.*	Time
Frank: *…I just don't have time*	Time

The three above extracts were taken from three interviews, and illustrate the coding done. All three extracts highlight that each interviewee stresses the lack of time to participate in PD activities and to integrate ICT in their teaching.

Another example of manual coding has been illustrated in Table 4.6 (p. 96). These are slightly longer extracts, but still clearly show how common themes emerged and clustered around a given area, in this case deep versus shallow use of ICT.

Table 4.6

Example of qualitative interview manual coding 2

Interview	Coding
Jason: *Um, it's just the course content, I guess is the main problem because we got too much to cover and, well I mean, by using ICT, I don't know whether you mean, you know, using it meaningfully or using it as a storage system. You know, I would upload PowerPoint slides, words files on Blackboard. But it is not really using ICT in my view.*	Curriculum Control
Monica: *Of course, sometimes I used the OneDrive to ask questions, students send me homework to my OneDrive and they may sometimes type on the document I have for OneDrive. So those are the ICT things I use.*	Integration & Communication
Jonathan: *With our teaching, in terms of English language it is not as we're looking for something very complex. We're looking at something very simple and there isn't a lot of … the only part ICT is I could ask them to type their written work on the computer and show it through the computer, that's it.*	Instructor Agency Explanation

In the above three examples, interviewees talk about their use of ICT in their teaching. As can be understood from the excerpts, each of the interviewees are engaged primarily in using ICT as a transmission mechanism for otherwise traditional pedagogical methods.

4.6.6 Validity and reliability

The conventional basis for the assessment of rigorousness or quality of scholarly work has been by using the following criteria: internal validity, external validity, reliability, and objectivity (Guba & Lincoln, 1989). However, there was a danger that these criteria fell too closely along the lines of the positivist paradigm as expressed by Altheide and Johnson (1994) and Janesick (1994), and consequently not suited to judge the quality of this qualitative/interpretive study. In addition, Ely et al. (1991, p. 95) suggest that "the language of positivist research is not congruent with or adequate to qualitative work."

Accordingly, Guba & Lincoln (1989) proposed new criteria which emphasise the importance of trustworthiness, as well as suggested that "Credibility replaces internal validity, dependability replaces reliability, confirmability replaces objectivity, and transferability replaces external validity (ibid)". This resonates with me as a researcher and is relevant to the fundamentally interpretivist approach of the present study, as detailed above.

Credibility was adhered to by incorporating member checks where participants were provided with the opportunity to confirm individual data (given a copy of the interview transcripts to be checked for accuracy). Also, progressive subjectivity served to remind me that what emerged in the data was a joint view, and necessarily co-constructed by myself in concert with the participants of the study.

Dependability deals primarily with the stability, over time, of the data. In interpretive studies, alterations in research design are seen as a strength, and integral to the very process of research, rather than indicative of a flaw or deficiency in the methodology. Granted, any such changes must be identified beforehand, and clearly described and explained to maintain intellectual honesty, they must remain "tracked and trackable" (Guba & Lincoln, 1989, p. 242) throughout the process.

Confirmability was adhered to by making the raw data and coding available to the reader in the appendix (Cronbach & Suppes, 1969), and consequently the confirmability can be assured. However, it should be pointed out that I, as the researcher, am also the interpreter, and such a need for researcher interpretation remains inevitably coloured with the individual researcher's prejudices, experiences and preconceived ideas about the nature of the phenomena being observed.

Transferability in the course of interpretive research necessitates sampling which is purposely chosen or convenient in nature (Patton, 1990) as utilised in this study. Guba and Lincoln (1989) and Geertz (1973) argue that the task of the interpretivist researcher is to outline the context as well as set up fleshed out descriptions of both the methods undertaken and the interpretation of the outcomes. It is then left to the reader to position themselves vis-a-vis the research, deciding the relevance and value to their own personal context (Merriam & Grenier, 2019).

Thus, qualitative/interpretivist research and more importantly interpretive validity of this study's finding, mainly qualitative data which is subjective in nature, and authenticity and trustworthiness, can be evaluated for accuracy and quality through the basis of the above criteria. Given the highly contextualised and field-dependent nature in which the study was undertaken, and with respect to the intent to leverage the results to effect positive institutional change, all the aforementioned facets of the interpretivist nature of the methodology are a strength, rather than a weakness.

4.6.7 Integration

In this mixed-method design, the process by which the two types of data, quantitative and qualitative, are mixed is referred to as integration (Tashakkori &Teddlie 1998; Creswell et al., 2009). In the present research study, these phases were connected (Hanson et al., 2005) where the results from the data analysis in the preliminary phase informed the data collection in the second phase. As employed by previous authors (Ivankova et al., 2006), this particular research design is used by a researcher to

connect these two phases of the research and inform the focus of the questions collecting qualitative data as resulting from the previous steps involving quantitative data collection.

In this research study, the integration of the results was achieved primarily through discussing the results at the conclusion of the study. Given that both sets of questions have provided the data for the study, even though the qualitative is primary, the discussion section combined both phases of the study in addressing the research questions in a more robust and meaningful way, with hopes to construct a more complete picture, holistic view, regarding the problems researched.

4.6.8   Reflexivity and neutrality

Efforts have been made in this study to remain at once flexible in interpretation and rigorous in analysis, while keeping issues of reflexivity and neutrality, as well as ethics and trustworthiness, at the forefront. An emphasis on reflexivity means being aware that we as researchers are an inescapable part of the world that they are researching (Bishop & Shepherd, 2011). Taking into consideration the experience and background that I myself bring as a teacher and teacher educator, this will without doubt influence my views regarding the professional development process at tertiary institutions in Hong Kong.

Throughout this study, I have attempted to be mindful of vigilance and reflexivity as guards against diminishing the agency of the participants. As my relationship has been as a colleague, supervisor and teacher-educator to some of the research participants, I am mindful of the danger of unconsciously drifting into "the plotline of meaning-making" (Hamilton, 2012, xiii) as could potentially occur. The risk is that the study could begin with answers well defined, even subconsciously, and simply selectively read through responses for quotes that fit these.

On the other hand, the interpretive nature of the research positively impacted the likelihood the the data would contain instances of co-constructed context and discourse, as I am familiar with the participants and the professional development modes they engage in. I would also like to mention that during the time of the data collection, I was not involved in any professional development activities, so hopefully this allowed for some distance during the process of both data collection and data analysis.

To keep an open-mindedness and allow my research participants' voices to emerge, each participant received a copy of their transcripts and were invited to further comment and discuss. Furthermore, I was mindful throughout the interviews of the need to allow the interviewees to drive the conversation, and the process of co-construction that these open-ended interviews engendered made the overall results stronger and more multifaceted than if I had merely come to the interviews with pre-planned questions.

Lastly, it is unfortunate that this study was unable to involve multiple investigators, which would also lend a more reflexive approach to the data and its interpretation. Hopefully this study will result in future research, which is more suited, and indeed funded, to incorporating multiple researchers such that we might be able to further strengthen the ability to gather and analyse the data in a reflexive and co-constructed manner.

4.7   Ethical considerations

Throughout the research process ethical issues may arise and these need to be taken into consideration and evaluated seriously. Especially the costs/benefit ratio which was outlined by Frankfort-Nachmias and Nachmias (1992) where researchers need to evaluate the potential for benefits from their study to accrue to the individual involved in the inquiry, and weigh these against concurrent costs which may also obtain. Accordingly, there exist guidelines to help the researcher navigate the potential "ethical minefield" (Cohen et al., 2011, p. 49).

In this research project, I adhered to all the applicable procedures prior to approaching the participants (teachers) themselves. I first contacted heads of departments/centres and received informal consent to contact their teachers, as these department heads act as institutionally and culturally sanctioned gatekeepers. Given that I have been involved in various committees and organisations in Hong Kong, I knew many of them first-hand which proved to be helpful to "open the door." The cultural context in which the study was carried out values relationships as paramount in any social interaction, and these prior connections helped to enhance the rapport of my interactions. Before collecting any data, I completed the requisite ethical form and submitted it for University approval (see Appendix 8) and ethical outlines were followed in adherence to the British Educational Research Association's (BERA) recommendations (2014).

4.8 Informed consent

In the present study, no minors were involved in this research; participants were adult teachers at Hong Kong universities, and the programme of the research was structured such that it did not pose any major ethical problems. Even though the research in question did not pose any major ethical problems and no participants were potentially vulnerable, several steps were still taken to inform the participants about the research and to obtain informed consent. Informed consent is an imperative aspect of ethical behaviour, given the clear ethical imperative to respect the individual right to self-determination and decision-making capability (Howe & Moses, 1999; Cohen, Manion, & Morrison, 2011). Informed consent has been defined by Diener and Crandall as "the procedure in which individuals choose whether to participate in an investigation after being informed of facts that would be likely to influence their decisions" (1978, p. 57).

With an eye towards ensuring an informed decision by all participants to take part, an invitation letter/email was sent, and written consent was confirmed from all voluntary participants in line with BERA (2011) guidelines and University of Exeter ethical guidelines procedures. In addition, all participants were once more informed by the first screen on *SurveyMonkey* (questionnaire survey instrument) regarding the research

project, their anonymity, confidentiality and opportunity to cease participation at their discretion (see Appendix 9). Specifically, the invitation letter included (i) a comprehensive outline of the procedures to be followed (ii) a description of the risks and discomforts (iii) description of benefits (iv) offer to answer any enquiries concerning the procedure and (v) clear notice that withdrawing consent is absolutely acceptable at any time, and participation may be ended without any negative impact to the participants (Cohen et al., 2011).

Following the questionnaire, I asked participants if they would be willing to take part in a second supplementary interview at a later date. Those who indicated a willingness to take part were asked to supply contact details in the form of email and mobile numbers, and these were subsequently utilised in organising these follow-up interviews. In terms of the semi-structured interview, an invitation letter and consent form were provided to the participants prior to the interview (Cohen et al., 2011).

In both the quantitative and qualitative phases of the data collection, participants had the right to chose to withdraw, at any time, from any part of the study, submission of consent form notwithstanding. Further, no reason for this decision was required to be provided or was even requested, and the participants wishing to withdraw reserved the right to request that all data submitted by them be removed from the entirety of the study (Cohen et al., 2011).

4.8.1 Anonymity and confidentiality

As names, institutions, gender, age and strong opinions were collected, the participants' privacy was promised (Cohen et al., 2011) by the researcher insofar as possible. Confidentiality was promised to subjects participating in the semi-structured interviews and the researcher further guaranteed to the extent possible that interview data was not traceable. Participants' names were substituted with pseudonyms at the stage of transcribing and analysing interview data. The ultimate ability to link an identifying code to any individual participant rests with me, the researcher.

Participants were also informed that all data collected will be destroyed twelve months after analysis, and that all data was safely stored on a secure university VLE system server, where it was only accessible to the researcher through multiple password protected areas.

4.9   Summary

In the preceding chapter, the rationale for selecting an interpretivist paradigm was presented and defended. The principled basis for selection of a mixed-method research design was also outlined for this particular study involving qualitative data collection. Further, the participants were described, together with the procedures for selection and the manner in which the data were collected. Finally, the methods of data analysis were presented, and the interpretation and limitations were discussed in turn. The self-selected nature of the participants, along with the method of convenience sampling, was presented and defended as a conscious choice by the researcher. The chapter concluded with a brief examination of ethical concerns, particularly how they affected the ability of participants to withdraw from the study.

CHAPTER 5: QUANTITATIVE FINDINGS

5.1   Introduction

This section presents results and findings from the questionnaire conducted in phase 1 of the study. The findings of the descriptive and analytical statistical analysis are explained with the aim of generating a clearer picture of the findings and how they are related to the follow-up semi-structured interviews. The section is structured around the four main research questions (each research question is correlated to a specific question on the questionnaire). The data within each question will be discussed based on the original research question.

5.2   Analysis results for RQ1: What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?

As my first research question, I decided to aim for a baseline general measurement. I intended it to be both general, as well as something that would hopefully furnish interesting items for further exploration in the interview segment. Therefore, the first research question established the frequency of engagement in professional development in ICT skills for teachers during their professional careers. There were five sub-questions (Q7_1 to Q7_5) for Q7 regarding five professional development activities.

- Q7_1: Conducting action research into ICT skills.
- Q7_2: Attending conferences, workshops, seminars or courses in ICT skills.
- Q7_3: Reading professional literature involving ICT (e.g. journals, evidence-based papers, thesis papers).
- Q7_4: Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation) in use/adoption of ICT with colleagues.

- Q7_5: Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).

The five sub-questions were used to explore research question 1.

The responses of the five items were on a 5-point Likert scale, with 0 = never, 1 = once every 2-3 years, 2 = once every year, 3 = 2-3 times a year, and 4 = more than three times a year. Higher scores indicated more engagement in the professional development activities.

Table 5.1 (p.106) summarises the survey responses of the five sub-questions of Q7 regarding engagement of professional development activities. The mean scores for Q7_1 (Conducting action research into ICT skills) and Q7_5 (Participating in a Community of Practice) were less than 2, indicating participants engaged in these two professional development activities less often. The mean scores for Q7_2 (Attending conferences, workshops, seminars or courses in ICT skills), Q7_3 (Reading professional literature involving ICT, for example, journals, evidence-based papers, thesis papers), and Q7_4 (Sharing good teaching practice, for example, mentoring, informal dialogues, lesson planning and peer observation, in use/adoption of ICT with colleagues) were greater than 2, indicating participants engaged in these three professional development activities moderately often. Conducting action research into ICT skills (Q7_1, $M = 1.26$) was the least engaged-in professional development activity and sharing good teaching practice in use/adoption of ICT with colleagues was the most engaged-in professional development activity (Q7_4, $M = 2.64$).

Table 5.1

Engagement of Professional Development Activities (Q7)

	Frequency counts (%) of survey responses					
Item	0	1	2	3	4	M (*SD*)
Q7_1	22 (37.9)	13 (22.4)	11 (19.0)	10 (17.2)	2 (3.4)	1.26 (1.24)
Q7_2	5 (8.6)	15 (25.9)	16 (27.6)	13 (22.4)	9 (15.5)	2.10 (1.21)
Q7_3	10 (17.2)	9 (15.5)	12 (20.7)	17 (29.3)	10 (17.2)	2.14 (1.36)
Q7_4	4 (6.9)	6 (10.3)	14 (24.1)	17 (29.3)	17 (29.3)	2.64 (1.21)
Q7_5	16 (27.6)	9 (15.5)	14 (24.1)	8 (13.8)	11 (19.0)	1.81 (1.47)

Note: 0 = never, 1 = once every 2-3 years, 2 = once every year, 3 = 2-3 times a year, and 4 = more than three times a year.

5.3 Analysis Results for RQ2: What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?

For the second research question, my focus was on shifting from measuring objective frequencies to subjective judgments by the participants. Similarly to the first question, it was hoped that beyond merely furnishing relevant data for tabulation, this question would also serve as an excellent means to direct the further inquiry in the interview portion. Given a measurement of which PD activities teachers engaged in, cross-referenced with their feelings towards these, it would be possible to engage in a richer, more contextualised discussion of the underlying motivations for both of these.

There were five sub-questions (Q8_1 to Q8_5) for Q8 regarding five professional development activities.

- Q8_1: Conducting action research into ICT skills.
- Q8_2: Attending conferences, workshops, seminars or courses in ICT skills.
- Q8_3: Reading professional literature involving ICT (e.g. journals, evidence-based papers, thesis papers).

- Q8_4: Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation) in use/adoption of ICT with colleagues.
- Q8_5: Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).

The five sub-questions were used to explore research question 2.

The responses of the five items were on a 5-point Likert scale, with 1 = not very useful, 2 = limited usefulness, 3 = neutral, 4 = useful, and 5 = very useful. Higher scores indicated more usefulness of the professional development activities for enhancing teaching.

Table 5.2 (p. 108) summarises the survey responses of the five items of Q8 regarding the different forms of professional development for ICT skills and their potential to enhance teaching. The mean scores ranged from 3.59 (Q8_3: Reading professional literature involving ICT) to 4.29 (Q8_4: Sharing good teaching practice in use/adoption of ICT with colleagues), indicating participants had moderately positive attitudes towards these different modes of professional development activities. The z-scores of skewness and kurtosis indicated that the data for Q8_2, Q8_4, and Q8_5 may not be coming from normal distributions.

Table 5.2

Perceptions of Professional Development Activities' Perceived Impact on Teaching (Q8)

	Frequency counts (%) of survey responses				
Item	1	2	3	4	5
Q8_1	4 (6.9)	9 (15.5)	8 (13.8)	22 (37.9)	15 (25.9)
Q8_2	2 (3.4)	5 (8.6)	6 (10.3)	27 (46.6)	18 (31.0)
Q8_3	2 (3.4)	12 (20.7)	8 (13.8)	22 (37.9)	14 (24.1)
Q8_4	1 (1.7)	3 (5.2)	1 (1.7)	26 (44.8)	27 (46.6)
Q8_5	2 (3.4)	3 (5.2)	6 (10.3)	32 (55.2)	15 (25.9)

Note: 1 = not very useful, 2 = limited usefulness, 3 = neutral, 4 = useful, and 5 = very useful.

Table 5.3

Descriptive Statistics of Professional Development Activities' Perceived Impact on Teaching

Item	*M*	*SD*	Skewness (*SE*)	Kurtosis (*SE*)	Z-skewness	Z-kurtosis
Q8_1	3.60	1.23	-0.66 (0.31)	-0.57 (0.62)	-2.11	-0.93
Q8_2	3.93	1.04	-1.12 (0.31)	0.91 (0.62)	-3.56*	1.47
Q8_3	3.59	1.17	-0.49 (0.31)	-0.85 (0.62)	-1.55	-1.37
Q8_4	4.29	0.88	-1.74 (0.31)	3.71 (0.62)	-5.56*	6.00*
Q8_5	3.95	0.94	-1.32 (0.31)	2.16 (0.62)	-4.20*	3.50*

Note: * indication of non-normality.

Table 5.4 (p. 109) shows the mean and standard deviation of the response scores of the five items regarding the various professional development activities impact on teaching, grouped by gender. The results of the 2-sample t-tests indicated that there were no significant differences in the mean response scores of the five items regarding the perceived impact of these PD activities between male and female ($p > 0.05$).

Table 5.4

M (SD) of Perceptions of Professional Development Activities' Impact on Teaching by Respondent Gender

Item	Male (*N* = 32)	Female (*N* = 26)	*t*	*p*
Q8_1	3.47 (1.30)	3.77 (1.14)	-0.926	0.358
Q8_2	3.84 (1.05)	4.04 (1.04)	-0.706	0.483
Q8_3	3.34 (1.21)	3.88 (1.07)	-1.784	0.080
Q8_4	4.25 (0.80)	4.35 (0.98)	-0.411	0.682
Q8_5	4.00 (0.80)	3.88 (1.11)	0.459	0.648

Note: DF = 56.

Table 5.5 (p. 110) shows the mean and standard deviation of the response scores of the five items regarding the various professional development activities' impact on teaching, grouped by age. Results for Levene's test for the test of homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models ($p > 0.05$). The results of the ANOVAs indicated that there were no significant differences in the mean response scores of the five items regarding the perceived impact of these professional development activities among participants in different age groups ($p > 0.05$).

Table 5.5

M (SD) of Perceptions of Professional Development Activities' Impact on Teaching by Respondent Age

Item	21-35 ($N = 10$)	36-50 ($N = 28$)	51+ ($N = 20$)	Levene	F	p
Q8_1	3.80 (1.03)	3.36 (1.31)	3.85 (1.18)	0.326	1.099	0.340
Q8_2	3.80 (1.03)	3.93 (1.09)	4.00 (1.03)	0.666	0.119	0.888
Q8_3	3.50 (1.08)	3.50 (1.20)	3.75 (1.21)	0.803	0.292	0.748
Q8_4	3.80 (1.14)	4.25 (0.93)	4.60 (0.50)	0.161	3.029	0.057
Q8_5	3.80 (0.92)	3.82 (1.09)	4.20 (0.70)	0.695	1.090	0.344

Note: Levene = p-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic.

Table 5.6 (p. 112) shows the mean and standard deviation of the response scores of the five items regarding the various professional development activites' impact on teaching, grouped by teaching experience. Results for Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models ($p > 0.05$). The results of the ANOVAs indicated that there were significant differences in the mean response scores of two items regarding the perceived impact of these PD activities: Q8_4 ($F(2, 55) = 3.208$, $p = 0.048$) and Q8_5 ($F(2, 55) = 3.243$, $p = 0.047$), among participants with different teaching experience.

The results of multiple comparisons using Tukey's HSD (Table 5.7, page 104) further indicated that for Q8_5 (Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills)

- Participants with 20+ years of teaching experience ($M = 4.29$, $SD = 0.64$) regarded this professional development activity significantly more useful than participants with 10-20 of teaching experience ($M = 3.63$, $SD = 1.04$) ($p = 0.042$).

- The perceived usefulness of this professional development activity was not significantly different 1) between participants with 1-10 years of teaching experience and participants with 11-20 years of teaching experience ($p = 0.349$), and 2) between participants with 1-10 years of teaching experience and participants with 20+ years of teaching experience ($p = 0.856$).

For Q8_4 (Sharing good teaching practice, for example, mentoring, informal dialogues, lesson planning and peer observation, in use/adoption of ICT with colleagues.), results of multiple comparisons using Tukey's HSD (Table 5.7, p.113) indicated that the perceived usefulness of this professional development activity was not significantly different between participants with 1-10 years of teaching experience and participants with 11-20 years of teaching experience ($p = 0.996$), 2) between participants with 1-10 years of teaching experience and participants with 20+ years of teaching experience ($p = 0.199$), and between participants with 11-20 years of teaching experience and participants with 20+ years of teaching experience ($p = 0.050$). Thus, although the ANOVA results indicated significance for Q8_4, based on the results of multiple comparisons, it was concluded that there were no significant differences in the mean response scores of Q8_4 regarding the perceived impact of these PD activities for enhancing teaching among participants with different teaching experience.

Table 5.6

M (SD) of Perceptions of Professional Development Activities' Impact on Teaching by Respondent Years of Teaching Experience

Item	1-10 years (N = 10)	10-20 years (N = 27)	20+ years (N = 21)	Levene	F	p
Q8_1	3.50 (1.27)	3.33 (1.24)	4.00 (1.14)	0.313	1.838	0.169
Q8_2	4.10 (0.99)	3.81 (1.08)	4.00 (1.05)	0.838	0.338	0.714
Q8_3	3.40 (1.35)	3.56 (1.16)	3.71 (1.15)	0.418	0.255	0.776
Q8_4	4.10 (0.99)	4.07 (1.00)	4.67 (0.48)	0.431	3.208	0.048*
Q8_5	4.10 (0.99)	3.63 (1.04)	4.29 (0.64)	0.391	3.243	0.047*

Note: Levene = *p*-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic. * indicates significance at the 0.05 level.

Table 5.7

Results of Multiple Comparisons

Item	I	J	Mean Difference (I-J)	*SE*	*p*	*95% CI*
Q8_4	1-10 years	11-20 years	0.03	0.31	0.996	(-0.73, 0.78)
		20+ years	-0.57	0.33	0.199	(-1.35, 0.22)
	11-20 years	1-10 years	-0.03	0.33	0.996	(-0.78, 0.73)
		20+ years	-0.59	0.25	0.050	(-1.19, 0.00)
	20+ years	1-10 years	0.57	0.33	0.199	(-0.22, 1.35)
		11-20 years	0.59	0.25	0.050	(0.00, 1.19)
Q8_5	1-10 years	11-20 years	0.47	0.34	0.349	(-0.34, 1.28)
		20+ years	-0.19	0.35	0.856	(-1.03, 0.66)
	11-20 years	1-10 years	-0.47	0.34	0.349	(-1.28, 0.34)
		20+ years	-0.66	0.27	0.042*	(-1.29, -0.02)
	20+ years	1-10 years	0.19	0.35	0.856	(-0.66, 1.03)
		11-20 years	0.66	0.27	0.042*	(0.02, 1.29)

Note: * indicates significance at the 0.05 level.

5.4 Analysis Results for RQ3: What are these English teachers' attitudes and beliefs about integrating ICT in their teaching?

Having primed questionnaire participants with questions aimed at PD in general, as well as their attitudes towards PD in ICT more specifically, this third question set was aimed at eliciting feelings regarding the actual integration of ICT into their language classrooms. I felt that only recording responses on the PD side of things would be a bit unbalanced, as it may not necessarily reflect the full picture of how and why teachers

are able to successfully involve ICT in their teaching. This question, then, was an attempt to provide further context and perspective on earlier answers, again in the hopes that it would yield fruitful avenues of further inquiry in the interview portion.

There were 15 sub-questions (Q9_1 to Q9_15) for Q9.

- Q9_1: As a teacher, I like to use ICT in my lessons.
- Q9_2: ICT makes the course content more lively.
- Q9_3: ICT can help students acquire understanding of course content.
- Q9_4: The knowledge students acquire using ICT remains superficial.
- Q9_5: Students have difficulty transferring knowledge from ICT activities to paper-and-pencil tasks.
- Q9_6: Using ICT makes students enthusiastic.
- Q9_7: Teachers don't have enough time to integrate ICT in their teaching.
- Q9_8: The use of ICT in the lesson limits teachers' freedom.
- Q9_9: Using ICT provides you as a teacher with more means to build whole class discussions on the students' ideas.
- Q9_10: As a teacher, it is difficult to be in full control of lessons that use ICT.
- Q9_11: If you use ICT in your lesson, you have to completely change your teaching style.
- Q9_12: Compared to using paper-and-pencil, ICT makes what students do more visible to the teacher.
- Q9_13: As a teacher, you can't see what is learnt through the ICT.
- Q9_14: ICT has limited capacity to provide benefits in the classroom.
- Q9_15: As a teacher, I like the challenges of exploring technology and new software and its possibilities.

The 15 sub-questions of Q9 were used to explore RQ3.

The responses of the 15 items were on a 5-point Likert scale, with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Higher scores indicated more positive attitudes towards ICT.

Table 5.8 (p. 116) summarises the survey responses of the 15 items of Q9 regarding participants' attitudes regarding integrating ICT in teaching. Table 5.9 (p.117) shows the descriptive statistics of the 15 items of Q9 regarding participants' attitudes regarding integrating ICT in teaching. The mean scores for the positively worded items ranged from 3.29 (Q9_7: Teachers don't have enough time to integrate ICT in their teaching) to 4.03 (Q9_1: As a teacher, I like to use ICT in my lessons.), and the mean scores for the negatively worded items ranged from 2.60 (Q9_13: As a teacher, you can't see what is learnt through the ICT.) to 3.17 (Q9_5: Students have difficulty transferring knowledge from ICT activities to paper-and-pencil tasks.). These results indicated that participants in general had moderately positive attitudes regarding integrating ICT in teaching. The z-scores of skewness and kurtosis indicated that the data for Q9_1 and Q9_2 may not be coming from normal distributions.

Table 5.8

Attitudes Regarding Integrating ICT in Teaching (Q9)

	Frequency counts (%) of survey responses				
Item	1	2	3	4	5
Q9_1	2 (3.4)	3 (5.2)	8 (13.8)	23 (39.7)	22 (37.9)
Q9_2	2 (3.4)	5 (8.6)	6 (10.3)	22 (37.9)	23 (39.7)
Q9_3	3 (5.2)	5 (8.6)	15 (25.9)	16 (27.6)	19 (32.8)
Q9_4	5 (8.6)	18 (31.0)	12 (20.7)	18 (31.0)	5 (8.6)
Q9_5	0	16 (27.6)	21 (36.2)	16 (27.6)	5 (8.6)
Q9_6	0	3 (5.2)	18 (31.0)	28 (48.3)	9 (15.5)
Q9_7	4 (6.9)	17 (29.3)	10 (17.2)	12 (20.7)	15 (25.9)
Q9_8	7 (12.1)	20 (34.5)	13 (22.4)	12 (20.7)	6 (10.3)
Q9_9	0	6 (10.3)	13 (22.4)	31 (53.4)	8 (13.8)
Q9_10	7 (12.1)	20 (34.5)	11 (19.0)	18 (31.0)	2 (3.4)
Q9_11	4 (6.9)	28 (48.3)	12 (20.7)	11 (19.0)	3 (5.2)
Q9_12	1 (1.7)	13 (22.4)	12 (20.7)	25 (43.1)	7 (12.1)
Q9_13	4 (6.9)	30 (51.7)	12 (20.7)	9 (15.5)	3 (5.2)
Q9_14	6 (10.3)	23 (39.7)	13 (22.4)	10 (17.2)	6 (10.3)
Q9_15	0	3 (5.2)	14 (24.1)	29 (50.0)	12 (20.7)

Note: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Table 5.9

Descriptive Statistics of Attitudes Regarding Integrating ICT in Teaching (Q9)

Item	M	SD	Skewness (SE)	Kurtosis (SE)	Z-skewness	Z-kurtosis
Q9_1	4.03	1.03	-1.18 (0.31)	1.23 (0.62)	-3.77*	1.99
Q9_2	4.02	1.08	-1.15 (0.31)	0.74 (0.62)	-3.66*	1.19
Q9_3	3.74	1.16	-0.65 (0.31)	-0.31 (0.62)	-2.07	-0.51
Q9_4^n	3.00	1.15	0.00 (0.31)	-1.02 (0.62)	0.00	-1.64
Q9_5^n	3.17	0.94	0.30 (0.31)	-0.82 (0.62)	0.96	-1.33
Q9_6	3.74	0.78	-0.18 (0.31)	-0.30 (0.62)	-0.57	-0.49
Q9_7	3.29	1.32	-0.05 (0.31)	-1.34 (0.62)	-0.16	-2.16
Q9_8^n	2.83	1.20	0.28 (0.31)	-0.88 (0.62)	0.90	-1.43
Q9_9	3.71	0.84	-0.51 (0.31)	-0.13 (0.62)	-1.61	-0.21
Q9_10^n	2.79	1.12	0.04 (0.31)	-1.11 (0.62)	0.12	-1.80
Q9_11^n	2.67	1.03	0.61 (0.31)	-0.43 (0.62)	1.93	-0.70
Q9_12	3.41	1.03	-0.31 (0.31)	-0.82 (0.62)	-1.00	-1.33
Q9_13^n	2.60	1.01	0.77 (0.31)	-0.07 (0.62)	2.46	-0.11
Q9_14^n	2.78	1.17	0.46 (0.31)	-0.70 (0.62)	1.45	-1.13
Q9_15	3.86	0.80	-0.37 (0.31)	-0.19 (0.62)	-1.18	-0.31

Note: ^{n} indicated negatively worded items. * indication of non-normality.

Table 5.10 (p. 118) shows the mean and standard deviation of the response scores of the 15 items for attitudes regarding integrating ICT in teaching (Q9) by gender. The results of the 2-sample t-tests indicated that there were no significant differences in the mean response scores of the 15 items for attitudes regarding integrating ICT in teaching between male and female ($p > 0.05$).

Table 5.10

M (SD) of Attitudes Regarding Integrating ICT in Teaching by Gender

Item	Male ($N = 32$)	Female ($N = 26$)	t	p
Q9_1	4.09 (1.09)	3.96 (0.96)	0.485	0.630
Q9_2	4.13 (1.13)	3.88 (1.03)	0.838	0.406
Q9_3	3.75 (1.24)	3.73 (1.08)	0.062	0.951
Q9_4	3.00 (1.27)	3.00 (1.02)	0.000	1.000
Q9_5	3.16 (0.95)	3.19 (0.94)	-0.144	0.886
Q9_6	3.69 (0.82)	3.81 (0.75)	-0.577	0.567
Q9_7	3.44 (1.32)	3.12 (1.34)	0.920	0.362
Q9_8	3.03 (1.26)	2.58 (1.10)	1.446	0.154
Q9_9	3.72 (0.77)	3.69 (0.93)	0.118	0.906
Q9_10	2.94 (1.13)	2.62 (1.10)	1.091	0.280
Q9_11	2.84 (1.14)	2.46 (0.86)	1.414	0.163
Q9_12	3.31 (0.97)	3.54 (1.10)	-0.831	0.409
Q9_13	2.78 (1.04)	2.38 (0.94)	1.507	0.137
Q9_14	3.03 (1.20)	2.46 (1.07)	1.884	0.065
Q9_15	3.88 (0.79)	3.85 (0.83)	0.135	0.893

Note: DF = 56.

Table 5.11 (p. 120) shows the mean and standard deviation of the response scores of the 15 items for attitudes regarding integrating ICT in teaching by age. Results for Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models ($p > 0.05$), except for the model for Q9_13 ($p = 0.020$). The results of the ANOVAs indicated that there were significant differences in the mean response scores of two items for attitudes regarding integrating ICT in teaching, Q9_9 ($F(2, 55) = 3.276$, $p = 0.045$), Q9_11 ($F(2, 55) = 3.251$, $p = 0.046$), and Q9_13 ($F(2, 55) = 4.711$, $p = 0.013$), among participants in different age groups.

The results of multiple comparisons using Tukey's HSD (Table 5.12, p. 121) further indicated that for Q9_9 (Using ICT provides you as a teacher with more means to build whole class discussions on the students' ideas)

- Participants 21-35 years old ($M = 4.30$, $SD = 0.48$) significantly agreed more with this statement than participants 36-50 years old ($M = 3.57$, $SD = 0.88$) ($p = 0.045$).
- The level of agreement for this statement was not significantly different 1) between participants 21-35 years old and participants 51+ years old (p = 0.073), and 2) between participants 51+ years old and participants 36-50 years old (p = 0.992).

For Q9_11 (If you use ICT in your lesson, you have to completely change your teaching style)

- Participants 21-35 years old ($M = 3.40$, $SD = 1.08$) significantly agreed more with this statement than participants 36-50 years old ($M = 2.50$, $SD = 0.92$) ($p = 0.045$).
- The level of agreement for this statement was not significantly different 1) between participants 21-35 years old and participants 51+ years old (p = 0.079), and 2) between participants 51+ years old and participants 36-50 years old (p = 0.984).

For Q9_13 (As a teacher, you can't see what is learnt through the ICT)

- Participants 21-35 years old ($M = 3.10$, $SD = 1.29$) significantly agreed more with this statement than participants 36-50 years old ($M = 2.21$, $SD = 0.97$) ($p = 0.037$).
- Participants 51+ years old ($M = 2.90$, $SD = 0.97$) significantly agreed more with this statement than participants 36-50 years old ($M = 2.21$, $SD = 0.97$) ($p = 0.043$).
- The level of agreement for this statement was not significantly different between participants 21-35 years old and participants 51+ years old (p = 0.850).

Table 5.11

M (SD) of Attitudes Regarding Integrating ICT in Teaching by Age

Item	21-35 (*N* = 10)	36-50 (*N* = 28)	51+ (*N* = 20)	Levene	*F*	*p*
Q9_1	4.10 (0.99)	3.96 (1.14)	4.10 (0.91)	0.964	0.123	0.885
Q9_2	4.30 (1.25)	3.86 (1.11)	4.10 (0.97)	0.641	0.696	0.503
Q9_3	3.70 (1.16)	3.71 (1.30)	3.80 (1.01)	0.496	0.038	0.963
Q9_4	3.50 (0.97)	2.96 (1.20)	2.80 (1.15)	0.672	1.262	0.291
Q9_5	3.20 (0.92)	3.18 (0.95)	3.15 (0.99)	0.835	0.010	0.990
Q9_6	4.00 (0.82)	3.68 (0.82)	3.70 (0.73)	0.779	0.652	0.525
Q9_7	3.60 (0.97)	3.18 (1.44)	3.30 (1.34)	0.083	0.365	0.696
Q9_8	3.40 (1.17)	2.75 (1.24)	2.65 (1.14)	0.964	1.433	0.247
Q9_9	4.30 (0.48)	3.57 (0.88)	3.60 (0.82)	0.121	3.276	0.045*
Q9_10	3.50 (0.97)	2.61 (1.13)	2.70 (1.08)	0.511	2.582	0.085
Q9_11	3.40 (1.08)	2.50 (0.92)	2.55 (1.05)	0.832	3.251	0.046*
Q9_12	3.90 (0.99)	3.36 (0.95)	3.25 (1.12)	0.533	1.441	0.246
Q9_13	3.10 (1.29)	2.21 (0.79)	2.90 (0.97)	0.020*	4.711	0.013*
Q9_14	3.20 (1.32)	2.79 (1.23)	2.55 (1.00)	0.344	1.031	0.363
Q9_15	4.00 (0.67)	3.89 (0.79)	3.75 (0.91)	0.271	0.353	0.704

Note: Levene = *p*-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic

Table 5.12

Results of Multiple Comparisons

Item	I	J	Mean Difference (I-J)	SE	p	95% CI
Q9_9	21-35	36-50	0.73	0.30	0.045*	(0.01, 1.44)
		51+	0.70	0.31	0.073	(-0.05, 1.45)
	36-50	21-35	-0.73	0.30	0.045*	(-1.44, -0.01)
		51+	-0.03	0.24	0.992	(-0.60, 0.54)
	51+	21-35	-0.70	0.31	0.073	(-1.45, 0.05)
		36-50	0.03	0.24	0.992	(-0.54, 0.60)
Q9_11	21-35	36-50	0.90	0.37	0.045*	(0.02, 1.78)
		51+	0.85	0.39	0.079	(-0.08, 1.78)
	36-50	21-35	-0.90	0.37	0.045*	(-1.78, -0.02)
		51+	-0.05	0.29	0.984	(-0.75, 0.65)
	51+	21-35	-0.85	0.39	0.079	(-1.78, 0.08)
		36-50	0.05	0.29	0.984	(-0.65, 0.75)
Q9_13	21-35	36-50	0.89	0.35	0.037*	(0.04, 1.73)
		51+	0.20	0.37	0.850	(-0.68, 1.08)
	36-50	21-35	-0.89	0.35	0.037*	(-1.73, -0.04)
		51+	-0.69	0.28	0.043*	(-1.35, -0.02)
	51+	21-35	-0.20	0.37	0.850	(-1.08, 0.68)
		36-50	0.69	0.28	0.043*	(0.02, 1.35)

Note: * indicates significance at the 0.05 level.

Table 5.13 (p. 124) shows the mean and standard deviation of the response scores of the 15 items for attitudes regarding integrating ICT in teaching by teaching experience. Results for Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models (p > 0.05), except for the model for Q9_13 ($p = 0.019$). The results of the ANOVAs indicated that there were significant

differences in the mean response scores of two items for attitudes regarding integrating ICT in teaching, Q9_7 ($F(2, 55) = 5.364$, $p = 0.007$), Q9_8 ($F(2, 55) = 3.821$, $p = 0.028$), and Q9_11 ($F(2, 55) = 3.653$, $p = 0.032$), among participants with different teaching experience.

The results of multiple comparisons using Tukey's HSD (Table 5.14, p.125) further indicated that for Q9_7 (Teachers don't have enough time to integrate ICT in their teaching)

- Participants with 11-20 years of teaching experience ($M = 3.85$, $SD = 1.06$) significantly agreed more with this statement than participants with 20+ years of teaching experience ($M = 2.71$, $SD = 1.38$) ($p = 0.007$).
- The level of agreement for this statement was not significantly different 1) between participants with 1-10 years of teaching experience and participants with 11-20 years of teaching experience (p = 0.158), and 2) between participants with 11-20 years of teaching experience and participants with 20+ years of teaching experience (p = 0.819).

For Q9_11 (If you use ICT in your lesson, you have to completely change your teaching style)

- Participants with 1-10 years of teaching experience ($M = 3.40$, $SD = 0.97$) significantly agreed more with this statement than participants with 20+ years of teaching experience ($M = 2.38$, $SD = 1.12$) ($p = 0.025$).
- The level of agreement for this statement was not significantly different 1) between participants with 1-10 years of teaching experience and participants with 11-20 years of teaching experience (p = 0.098), and 2) between participants with 11-20 years of teaching experience and participants with 20+ years of teaching experience (p = 0.064).

For Q9_8 (The use of ICT in the lesson limits teachers' freedom), the results of multiple comparisons using Tukey's HSD (Table 5.14, p. 125) indicated that level of agreement for this statement was not significantly different 1) between participants with 1-10 years of teaching experience and participants with 11-20 years of teaching experience (p = 0.856), 2) between participants with 1-10 years of teaching experience and participants with 20+ years of teaching experience (p = 0.064), and 3) between participants with 11-20 years of teaching experience and participants with 20+ years of teaching experience (p = 0.055). Thus, although the ANOVA results indicated significance for Q9_8, based on the results of multiple comparisons, it was concluded that there were no significant differences in the mean response scores of Q9_8 among participants with different teaching experience.

Table 5.13

M (SD) of Attitudes Regarding Integrating ICT in Teaching by Teaching Experience

Item	1-10 years (*N* = 10)	10-20 years (*N* = 27)	20+ years (*N* = 21)	Levene	*F*	*p*
Q9_1	3.80 (1.32)	3.93 (0.96)	4.29 (0.96)	0.437	1.045	0.359
Q9_2	4.00 (1.49)	3.93 (1.04)	4.14 (0.96)	0.153	0.232	0.794
Q9_3	3.10 (1.29)	3.74 (1.20)	4.05 (0.97)	0.799	2.355	0.104
Q9_4	3.30 (1.16)	3.19 (1.14)	2.62 (1.12)	0.935	1.884	0.162
Q9_5	3.00 (1.05)	3.30 (0.78)	3.10 (1.09)	0.285	0.465	0.630
Q9_6	4.00 (0.67)	3.67 (0.78)	3.71 (0.85)	0.204	0.670	0.516
Q9_7	3.00 (1.33)	3.85 (1.06)	2.71 (1.38)	0.301	5.364	0.007*
Q9_8	3.30 (1.34)	3.07 (1.07)	2.29 (1.15)	0.574	3.821	0.028*
Q9_9	4.10 (0.88)	3.56 (0.70)	3.71 (0.96)	0.393	1.573	0.217
Q9_10	3.10 (1.29)	2.96 (0.98)	2.43 (1.16)	0.454	1.852	0.167
Q9_11	3.40 (0.97)	2.63 (0.88)	2.38 (1.12)	0.656	3.653	0.032*
Q9_12	3.50 (1.18)	3.33 (0.92)	3.48 (1.12)	0.543	0.152	0.859
Q9_13	2.80 (1.32)	2.56 (0.80)	2.57 (1.12)	0.019*	0.225	0.799
Q9_14	2.90 (1.37)	2.96 (1.02)	2.48 (1.25)	0.532	1.093	0.342
Q9_15	3.90 (0.88)	3.74 (0.59)	4.00 (1.00)	0.194	0.618	0.543

Note: Levene = *p*-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic. * indicates significance at the 0.05 level.

Table 5.14

Results of Multiple Comparisons

Item	I	J	Mean Difference (I-J)	SE	p	95% CI
Q9_7	1-10 years	11-20 years	-0.85	0.46	0.158	(-1.95, 0.25)
		20+ years	0.29	0.47	0.819	(-0.86, 1.43)
	11-20 years	1-10 years	0.85	0.46	0.158	(-0.25, 1.95)
		20+ years	1.14	0.36	0.007*	(0.27, 2.00)
	20+ years	1-10 years	-0.29	0.47	0.819	(-1.43, 0.86)
		11-20 years	-1.14	0.36	0.007*	(-2.00, -0.27)
Q9_8	1-10 years	11-20 years	0.23	0.42	0.856	(-0.80, 1.25)
		20+ years	1.01	0.44	0.064	(-0.05, 2.07)
	11-20 years	1-10 years	-0.23	0.42	0.856	(-1.25, 0.80)
		20+ years	0.79	0.33	0.055	(-0.01, 1.59)
	20+ years	1-10 years	-1.01	0.44	0.064	(-2.07, 0.05)
		11-20 years	-0.79	0.33	0.055	(-1.59, 0.01)
Q9_11	1-10 years	11-20 years	0.77	0.37	0.098	(-0.11, 1.65)
		20+ years	1.02	0.38	0.025*	(0.11, 1.93)
	11-20 years	1-10 years	-0.77	0.37	0.098	(-1.65, 0.11)
		20+ years	0.25	0.29	0.664	(-0.44, 0.94)
	20+ years	1-10 years	-1.02	0.38	0.025*	(-1.93, 0.11)
		11-20 years	-0.25	0.29	0.664	(-0.94, 0.44)

Note: * indicates significance at the 0.05 level.

5.5 Analysis Results for RQ4: To what extent do these tertiary English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in teaching?

As the final question set on the questionnaire, this was an attempt to tie together the previous questions regarding PD, ICT, and the participants' feelings about the same. Given that the focus of the present study is predominantly on ICT, I also felt it would be a good way to tease out the distinction between PD felt beneficial for teaching in general compared to PD felt beneficial in actually helping teachers to further integrate ICT in their teaching. As in previous research questions, the responses were anticipated to provide useful indicators of productive further follow-up questions.

Q10 asked: How useful do you think the following professional development activities are in helping you use ICT in your teaching? There were five sub-questions (Q8_1 to Q8_5) for Q10.

- Q10_1: Conducting action research into ICT skills.
- Q10_2: Attending conferences, workshops, seminars or courses in ICT skills.
- Q10_3: Reading professional literature involving ICT (e.g. journals, evidence-based papers, thesis papers).
- Q10_4: Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation) in use/adoption of ICT with colleagues.
- Q10_5: Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).

The five sub-questions of Q10 were used to explore RQ4.

The responses of the five items were on a 5-point Likert scale, with 1 = not very useful, 2 = limited usefulness, 3 = neutral, 4 = useful, and 5 = very useful. Higher scores indicated more usefulness of the professional development activities in the use of ICT.

Table 5.15 (p.127) summarises the survey responses of the five items of Q10 regarding the usefulness of professional development activities in the use of ICT. Table 5.16 (p.127) shows the descriptive statistics of the five items of Q10 regarding the usefulness of professional development activities in the use of ICT. The mean scores ranged from 3.24 (Q10_1: Conducting action research into ICT skills) to 4.00 (Q10_4: Sharing good teaching practice in use/adoption of ICT with colleagues), indicating participants had moderately positive perceptions for the usefulness of professional development activities in the use of ICT.

Table 5.15

Usefulness of Professional Development Activities in the Use of ICT (Q10)

Item	Frequency counts (%) of survey responses				
	1	2	3	4	5
Q10_1	4 (6.9)	16 (27.6)	7 (12.1)	24 (41.4)	7 (12.1)
Q10_2	2 (3.4)	10 (17.2)	4 (6.9)	29 (50.0)	13 (22.4)
Q10_3	5 (8.6)	13 (22.4)	7 (12.1)	23 (39.7)	10 (17.2)
Q10_4	0	11 (19.0)	1 (1.7)	23 (39.7)	23 (39.7)
Q10_5	2 (3.4)	8 (13.8)	11 (19.0)	26 (44.8)	11 (19.0)

Note: 1 = not very useful, 2 = limited usefulness, 3 = neutral, 4 = useful, and 5 = very useful.

Table 5.16

Descriptive Statistics of Usefulness of Professional Development Activities in the use of ICT

Item	*M*	*SD*	Skewness (*SE*)	Kurtosis (*SE*)	Z-skewness	Z-kurtosis
Q10_1	3.24	1.19	-0.29 (0.31)	-1.08 (0.62)	-0.94	-1.75
Q10_2	3.71	1.11	-0.83 (0.31)	-0.20 (0.62)	-2.64	-0.32
Q10_3	3.34	1.25	-0.41 (0.31)	-0.99 (0.62)	-1.32	-1.60
Q10_4	4.00	1.09	-0.92 (0.31)	-0.43 (0.62)	-2.93	-0.69
Q10_5	3.62	1.06	-0.65 (0.31)	-0.17 (0.62)	-2.08	-0.28

Table 5.17 (p.128) shows the mean and standard deviation of the response scores of the five items regarding usefulness of professional development activities in the use of ICT by gender. The results of the 2-sample t-tests indicated that there were no significant differences in the mean response scores of the five items regarding usefulness of professional development activities in the use of ICT between male and female (p > 0.05).

Table 5.17

M (SD) of Usefulness of Professional Development Activities in the Use of ICT by Gender

Item	Male ($N = 32$)	Female ($N = 26$)	t	p
Q10_1	3.25 (1.22)	3.23 (1.18)	0.061	0.952
Q10_2	3.53 (1.19)	3.92 (0.98)	-1.349	0.183
Q10_3	3.16 (1.35)	3.58 (1.10)	-1.128	0.205
Q10_4	3.84 (1.19)	4.19 (0.94)	-1.214	0.230
Q10_5	3.41(1.16)	3.88 (0.86)	-1.745	0.086

Note: DF = 56.

Table 5.18 (p. 129) shows the mean and standard deviation of the response scores of the five items regarding usefulness of professional development activities in the use of ICT by age. Results for Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models ($p > 0.05$), except for the model for Q10_2 ($p = 0.033$). The results of the ANOVAs indicated that there were no significant differences in the mean response scores of the five items regarding usefulness of professional development activities in the use of ICT among participants in different age groups ($p > 0.05$).

Table 5.18

M (SD) of Usefulness of Professional Development Activities in the Use of ICT by Age

Item	21-35 (*N* = 10)	36-50 (*N* = 28)	51+ (*N* = 20)	Levene	*F*	*p*
Q10_1	3.30 (1.42)	3.36 (1.22)	3.05 (1.05)	0.578	0.395	0.675
Q10_2	3.60 (1.27)	3.68 (1.22)	3.80 (0.89)	0.033	0.122	0.885
Q10_3	3.20 (1.48)	3.46 (1.17)	3.25 (1.29)	0.577	0.246	0.783
Q10_4	4.00 (0.94)	4.00 (1.16)	4.00 (1.12)	0.651	0.000	1.000
Q10_5	3.80 (1.03)	3.61 (1.10)	3.55 (1.05)	0.951	0.186	0.831

Note: Levene = *p*-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic.

Table 5.19 (p. 130) shows the mean and standard deviation of the response scores of the five items regarding usefulness of professional development activities in the use of ICT by teaching experience. Results for Levene's test for homogeneity of variances indicated that the assumption of homogeneity of variances were satisfied for all models ($p > 0.05$). The results of the ANOVAs indicated that there were no significant differences in the mean response scores of the five items regarding usefulness of professional development activities in the use of ICT among participants with different teaching experience ($p > 0.05$).

Table 5.19

M (SD) of Usefulness of Professional Development Activities in the Use of ICT by Teaching Experience

Item	1-10 years (*N* = 10)	10-20 years (*N* = 27)	20+ years (*N* = 21)	Levene	*F*	*p*
Q10_1	3.00 (1.33)	3.15 (1.20)	3.48 (1.12)	0.626	0.691	0.506
Q10_2	3.70 (1.25)	3.63 (1.15)	3.81 (1.03)	0.335	0.151	0.860
Q10_3	3.10 (1.52)	3.26 (1.26)	3.57 (1.12)	0.122	0.591	0.557
Q10_4	3.60 (1.27)	3.81 (1.18)	4.43 (0.75)	0.054	2.849	0.066
Q10_5	3.50 (1.27)	3.44 (1.09)	3.90 (0.89)	0.103	1.208	0.307

Note: Levene = *p*-value for Levene's test for homogeneity of variances. The numerator *df* (the *df* for the source) = 2 and the denominator *df* (the *df* for the error) = 55 for the *F* statistic.

5.6   Summary

In this chapter, I have presented and analysed the results and findings from the questionnaire conducted in phase 1 of the study. For the first question, it was found that participants engaged predominately in sharing good teaching practice and least in participating in a network of teachers and conducting action research into ICT skills.

In analysing the results and findings for question 2, a significant difference emerged between the perceptions of impact on teaching of the different forms of professional development for ICT skills across teaching experience, but not gender or age. Specifically, the 20+ year group were more likely to rate / find community of practice more useful.

The third question divulged there was no significant difference between gender in the various sub-categories. However, the analysis found significance in differences in age and teaching experience in several sub-categories. In terms of age, Q9_9 (Using ICT provides you as a teacher with more means to build whole class discussions on the students' ideas) found participants 21-35 years old agreed more with the statement than

participants 36-50 years old. For question 9_11 (if you use ICT in your lesson, you have to completely change your teaching style) it was found that participants 21-35 agree more with this statement than participants 36-50 years of age. In addition, Q9_13 (As a teacher, you can't see what is learnt through the ICT) participants 21-35 years and 51+ years of age agreed more with this statement than participants 36-50 years of age.

The questions also showed significant difference found in teaching experience across several sub-categories. For example, Q9_7 (Teachers don't have enough time to integrate ICT in their teaching) showed that participants with 11-20 years of teaching experience agreed more with this statement than participants with 20+ years of teaching experience. Moreover, in Q9_11 (If you use ICT in your lesson, you have to completely change your teaching style) participants with 1-10 years of teaching experience agreed more with this statement than participants with 20+ years of teaching experience.

Finally, the fourth question found that participants had moderately positive perceptions for the usefulness of professional development activities, conducting action research into ICT skills and sharing good teaching practice in use/adoption of ICT with colleagues, in the use of ICT.

Overall, the results in this explorational questionnaire do unfortunately suffer from an inability to make more specific observations as to the details of the responses. However, the design of the present research did allow me the opportunity to use the initial questionnaire responses to inform and guide the focus of the later, more in-depth, stage of interviews. While the questionnaires were not as representative of the themes of participants' attitudes and perceptions, they did serve as excellent starting points from which to delve deeper into the individual's personal feelings about the subject at hand. This is precisely the intent of the second data collection phase and will be the subject of the next chapter.

CHAPTER 6: QUALITATIVE FINDINGS

6.1   Introduction

In this chapter, the findings of the qualitative phase of the present study will be presented. The qualitative research consisted of conducting, transcribing, coding and then analysing audio-recorded semi-structured interviews (see chapter 4). This chapter is organised into four main sections which each reflect one research question (as shown in section 4.1). In each section, key themes identified from my analysis of the data are presented and illustrated with extracts from participants' interviews. Taken together, the themes provide insight into teachers' views and experiences of professional development of ICT skills in the context of English language education, as well as the underlying thoughts and feelings that inform them.

The decision to organise the findings around the research questions emerged from the themes clustering around these same questions. It was obvious that respondents' perceptions and lived experiences of the topic were broadly divided into those relating to PD in general and ICT in general, with sub-themes developing inside each of those two primary branches. As this was the primary distinction between questions 1-2 and questions 3-4, it was felt that this was the most sensible course of action. Similarly, this is in keeping with the organisation of the preceding chapter.

6.2   Data presentation and illustration

In terms of both presentation and analysis, there has been a holistic arrangement of the data with respect to the major themes and sub-themes which emerged during the course of the interviews. These sub-themes appear as sub-headings under each of the four research questions.

In the following chapter (chapter 7), the emerging themes (with excerpts) are also employed to support the discussion of findings and results under each of the four research questions. Given the somewhat interpreted nature of the chapter, the

structure, explanation and clarification of participants' perceptions and subjective interpretations regarding PD in ICT skills will necessarily be unlike the approach other researchers would take with the same data.

6.3   Analysis of data

In this section, I have analysed the semi-structured interviews grouped by the specific research question that the emerging data corresponds to. This provides an opportunity to both group these findings thematically as well as support them with pertinent extracts from the interviews. By way of aggregating number of responses that clustered around similar views, I have indicated the number of respondents represented. They are not intended to imply any significance, but rather to illustrate the representativeness of the data.

As mentioned above (see Chapter 4), thematic analysis was chosen as an ideal means by which to organise and interpret the data collected during the in-person interviews guided by previous ideas and perspectives. The trademark of thematic analysis is its flexibility, as it is just an analytic method (Clark & Braun, 2013), and thus can be used to address a wide range of research questions such as in the current study.

6.3.1 Emergence of Final Themes

In iterative close readings of both the transcripts and my notes from the interviews, I was able to begin refining the initial themes, not only into more finalised themes, but categories, or sub-themes, within those. What follows is a bit of an enumeration of these categories, as well as a bit of rationale for their creation.

Formal PD

It was obvious that formal PD needed to be split out into its own theme, since it featured quite prominently in interviewees' discussions regarding conferences, workshops, and seminars, themselves a recurrent topic of conversation throughout. Within this individual

theme, the sub-themes of conferences, in house PD/workshops and action research were most prominent.

Conferences

conferences were by far the most mentioned form of PD that interviewees engaged in, and it engendered both positive and negative comments. It dominated the PD landscape at the tertiary level in Hong Kong for English language teaching professionals, and there was an interesting interplay between the pedagogic methods advocated compared to the pedagogic methods actually used in the conferences themselves.

In-house PD/workshops

in-house PD/workshops formed something of a home institutional version of attending conferences. Each of the respondents mentioned some type of PD like this provided by their institutions, and while the feedback was mixed, it does not seem like they are going away any time soon. These unfortunately suffered from the same lack of sound pedagogic principles employed in the presentations themselves as was described by participants regarding the conferences.

Action research

action research as a category is included in the formal PD theme given that it was something mentioned by respondents as being formally advocated by their institutions. While it is true that action research doesn't necessarily require a formalised component, it is often the case that the amount of time and effort required to prepare properly for this involves some tradeoffs in terms of temporarily decreased workload at the agreement of the institution. As such, this is a category representing work that is not feasible without formal approval.

Informal PD

Alongside formal forms of PD, informal PD similarly played a large role in the discussions with interviewees, and therefore deserved its own theme category. Such topics as discussions with colleagues, show-and-tell, and even just personal reading figured as obvious loci around which the conversations flowed. The most notable sub-themes here were reading academic literature and informal chats to colleagues.

Reading informally

reading informally is something that is generally neither enforced nor accounted for at the institutional level, and that is the predominate reason to include this in the informal theme. It is also completely missing from the types of quantitative metrics used by institutions to track PD of the teachers, which is notable in its absence.

Informal chats

informal chats to colleagues were by far the most referenced form of informal PD. It seemed as if it were the informal variant of the formal PD category of conferences, and interviewees overwhelmingly expressed positive experiences with this form of PD. It seemed to be the venue through which teachers most often experienced authentic suggestions for integration of ICT with real-world pedagogic practices, and as such is clearly a resource much valued by interviewees.

Institutional Pressure

Institutional pressure, as opposed to other more general forms of pressure, deserved its own theme category, given that its prominence overshadowed both peer pressure and student pressure. The three most obvious categories here were lack of voice, lack of autonomy and top-down.

Lack of voice

lack of voice was something that the respondents felt quite keenly and were happy to share. There was a very real perception that they were unable to direct either the content of existing PD or the direction of future PD initiatives.

Lack of autonomy

lack of autonomy emerged as a widespread concern amongst participants given that they primarily shared a feeling of not being able to direct their own individual PD efforts. Several teachers mentioned their conviction that the entire process would work much better if institutions allowed them to have a free hand in determining which types of PD would be most beneficial for their particular needs.

Top-down

top-down emerged a bit in parallel with the two previous categories, in that there was a clear perception of the entirety of PD policy having been conceived and administered with the needs of the institutions in mind, not those of teachers. This category is distinct from those inasmuch as there was seemingly a one-way direction of communication and directives regarding the entire process. This is not particularly surprising, though the fact that teachers felt such charged emotional valency in this regard is a sign that things could definitely be improved.

Instructor Agency

Instructor agency emerged as something that interviewees were pre-occupied with, both in terms of determining the focus and content of the PD as well as contributing input to the ways in which the ICT was exploited in their classrooms. The prime category in this theme was attitudes and beliefs of the instructors.

Attitudes and beliefs

Attitudes and beliefs, very much aligned with the preceding sub-themes in Institutional Pressure, speaks not so much to the actual institutional policies and procedures

themselves, but to the way in which they are experienced by the teachers. Indeed, those interviewed were very much of the opinion that they had very little control, or even influence, over the scope and nature of PD at their institutions. Whether this led to the trend of respondents expressing preference for informal PD they themselves were the agents of is beyond the scope of the present study, those it is instructive to pay attention to how frustrated they feel with the currently implemented formal PD from their institutions.

Motivations for participation

Motivations for participation seemed to be various and revealed different facets of interviewees' experiences with PD. The three main categories which emerged here were freebies, continuous learning and pressure.

Freebies
freebies were an everpresent motivational tool, perhaps consciously employed, of institutions to entice instructors to attend PD sessions, at least those offered in-house. Other times, such things as paid flights and accommodation led to instructors being more willing to attend conferences at other institutions, so this was clearly also a big motivating factor.

Continuous learning
One of the key benefits mentioned by the interviewees was the opportunity to engage in continuous learning. Numerous teachers expressed their desire and enjoyment of learning, and this was seen as a key benefit to PD in general. It was not highlighted so much as a difference between formal and informal modes of PD, though it is reasonable to assume that those modes teachers found more worthwhile would correlate with those deemed to offer this particular opportunity.

Pressure

One of the additional unfortunate, but understandable, motivations for participation in PD, pressure was mentioned, at times indirectly, by a plurality of the participants. They discussed receiving emails from managers as well as the institutional decisions made based in part on participation in PD. This particular sub-theme was clearly on the mind, in some way or another, of basically everyone who took part in this study.

Integration of ICT

Integration of ICT into the actual classroom was a recurrent topic mentioned during the interviews, and as such it deserved to be its own theme. The two primary tracks of discussion in this particular theme were clustered around student engagement and teacher engagement, and those therefore constitute the primary categories for this theme.

Student engagement

student engagement was something that almost all of the teachers mentioned as being a prime advantage of incorporating more ICT resources into the classroom. Almost unanimously, the interviewees highlighted ways in which ICT was capable of facilitating greater concentration and focus from their pupils, and this was a very prevalent feature of the interviews.

Teacher engagement

teacher engagement, while not as predominantly positively noted as student engagement, was still a common comment to emerge from the data. Instructors mentioned how they were able to use ICT to facilitate tasks that they themselves saw as beneficial to their work, whether in a pedagogical or even merely administrative context (eg, attedance taking). ICT was generall seen as a positive tool to help them to achieve this work in a more efficient and effective manner.

Teacher Skills

An interest in teacher skills, both in terms of abilities and beliefs, was something that seemed deserving of its own thematic category. Interviewees mentioned their thoughts on how this was a key area that PD was able to influence, and which in turn had implications for their ability to integrate ICT into the classroom. The three categories, therefore, which emerged from this overarching theme, were feeling overwhelmed with the technology, computer skills and confidence to teach.

Feeling overwhelmed
feeling overwhelmed with the technology was not an uncommon strand in the responses from some interviewees. They mentioned their hesitancy, both in terms of ability to practically apply the tools with a specific pedagogic focus as well as in terms of pure familiarity with the tools themselves. This was something that emerged as a motivating factor for them to attend more practical, hands-on workshops for the tools, as a guard against precisely this type of feeling.

Computer skills
computer skills, mostly in terms of a basic familiarity with the tools and platforms upon which they rested was an additional area of concern for the teachers. Alongside their lack of familiarity with the applications, the teachers also often expressed concern that either themselves or their colleagues lacked ability to accomplish simple tasks on operating systems like windows, macintosh, android or iphone.

Confident to teach
confidence to teach was a suitable sub-theme that emerged more as a reaction to the perceived distance between teachers' ability and confidence with technology and that exhibited by their students. Responses clustering around this sub-theme mostly involved an anxiety about face-threat during the actual integration of the ICT, and individuals expressed varying willingness to risk this level of threat.

Practical Application

Practical application of the ICT resources was an aspect of PD that multiple interviewees raised as worthy of discussion. They seemed to consider it, almost unanimously, as something that had very positive impacts on their ability to use the ICT, and as such it was a clear choice as its own thematic category. Discussing with colleagues, as well as socio-affective learning were two obvious sub-themes that emerged from this more general theme.

Discussing with colleagues

discussing with colleagues was something almost universally acknowledged by the interviewees as beneficial to their learning and overall sense of satisfaction with their work life. The heterogeneous cultural background of the respondents would suggest this was not merely representative of the traditional Hong Kong culture highly invested in interpersonal relationships.

Socio-affective component of learning

highly related to the first sub-theme, the socio-affective nature of this type of learning was something that all of the interviewees expressed a strong desire for. It was something that they found sorely lacking in the conferences and workshops usually put on at the institutional level; whereas, those informal PD events they engaged in were much more likely to involve this component.

PD Interactivity

PD interactivity formed the final thematic category, and is primarily concerned with the way in which most of the formal PD is structured. Interviewees mentioned that this type of interactivity was not very much present at all during the majority of formal PD sessions they attended, whereas it seemed to be highly developed in the majority of the informal PD sessions they engaged with. The two primary sub-themes pertinent here were practical experience and a focus on knowledge-based outcomes.

Practical experience

practical experience was something that interviewees identified as leading to positive outcomes in terms of their ability to actually implement ICT effectively in their classrooms. Coupled with the more informal experiences they had with colleagues, this sub-theme refers more to the workshops in which teachers actually felt they were able to get hands-on practice with the applications and technology. It was very clearly something they would like to see more of.

Knowledge-based outcomes

knowledge-based outcomes were, on the other hand, a sub-theme around which respondents mostly agreed to hold a negative opinion. Along with an institutional focus on measurable inputs/outputs to their PD initiatives, it seems like the interviewees had a view of most conferences as disseminating only knowledge without any emphasis on participants' understanding or experience. Similarly, workshops were the teachers just heard someone speak for an hour were similarly derided as not fulfilling the expectations of something which clearly have a focus on participants doing something and learning in an experiential way.

Figure 6.1 Mind map – Final Themes
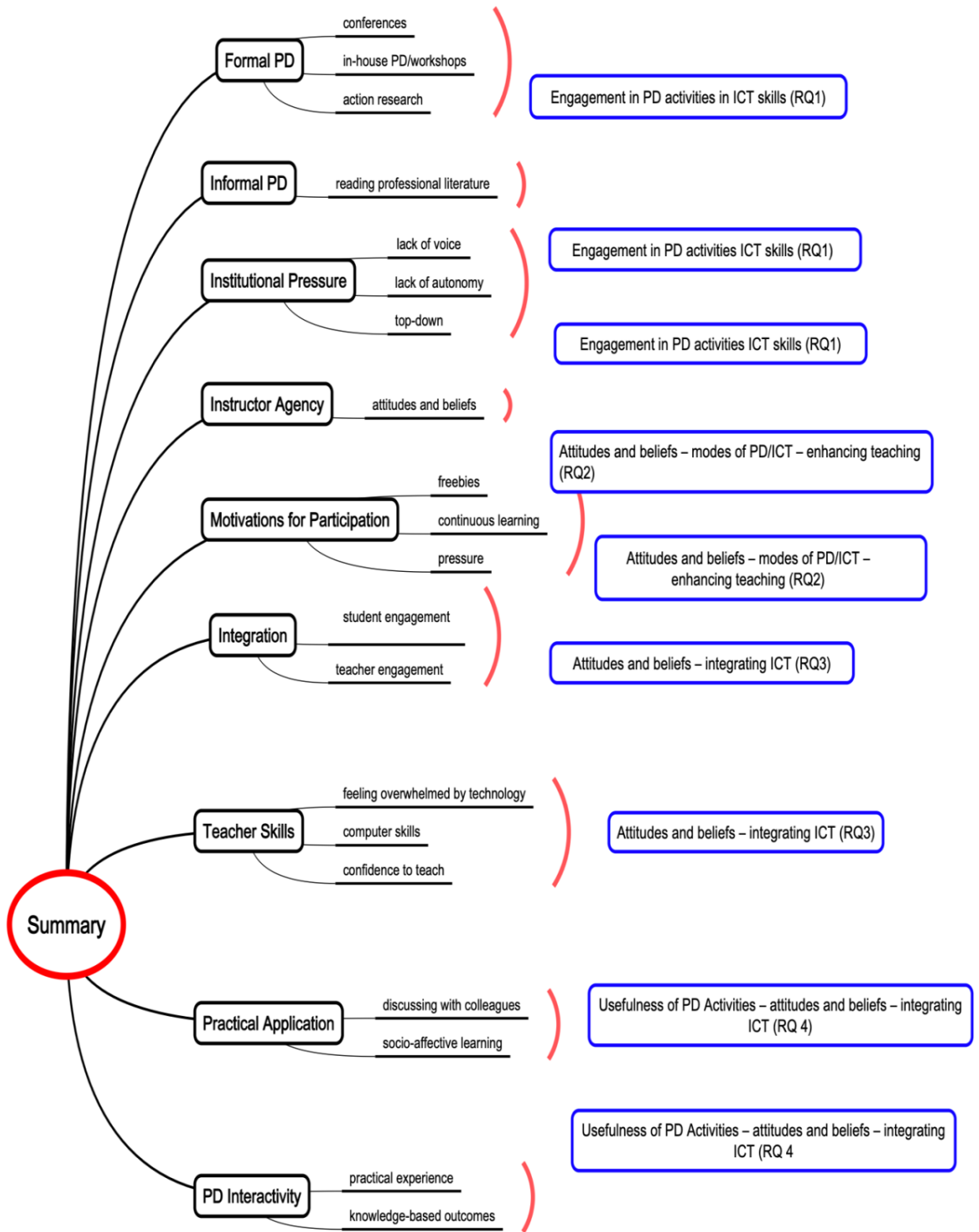
6.4   RQ 1: What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?

Responses to this question revealed a wide range of professional development modes that participants had engaged in. These are grouped into three main themes and illustrated in Table 6.1 that follows.

Table 6.1
Themes and sub-themes/categories for RQ1

No.	Themes	Sub-theme / categories	N
1	Formal Professional Development (PD)	conferences, in-house PD/workshops, sharing sessions, action research, community of practice	12
2	Informal PD	Reading professional literature, informal chats	9
3	Institutional Pressure	Lack of voice and autonomy, top-down	8

6.4.1 Professional development

The central overarching theme identified from the analysis of teachers' PD in ICT skills engagement over their professional careers is one that refers to formal professional development, as well as the financial aspects of the same.

attending conferences

Among the professional development activities that were often mentioned and emerged as popular with the interviewees were attending conferences and workshops. For instance, as Joyce revealed:

"*I love going to conferences and workshops*" (Joyce, 13/02/2018, 10:17 AM)

This point was also reiterated by Jason

"because you because you get to, you know, share your ideas with other people, you know, that give you feedback and, uh, you also get to know what other people are doing in their own context. So, there's a lot to be learned, uh, you know, in the conferences." (Jason, 12/02/2018, 10:16 AM)

All institutions provide some financial incentives for teachers to attend overseas conferences which might be an added incentive not only professionally but also personally as Joyce informs;

"One of them [chuckles] I must admit was the opportunity to go back to the US and have the university help pay for that ticket" (Joyce, 13/02/2018, 10:25 AM)

While it is quite common for institutions to fund teachers to engage in professional development in both local and international off-site event, the common perception in the interview is that the funding is insufficient, and Monica was quite disillusioned by the funding available

"it's very little money [sic] for a short trip you could get a ticket, maybe" (Monica, 15/02/2018, 9:48 AM)

which was also confirmed by Patrick who explained

"we are expected to attend overseas conferences in US and UK but how can we if we do not pay out of our own pocket" (Patrick, 18/02/2018, 11:06 AM)

As several of the institutions English Language Centres are fairly large (some close to 100 teachers) it might not be possible to fully fund teachers' overseas conference attendance. There were also incentives available to increase their annual professional development budget, as pointed out by Vivian

"if you publish you get an extra HK$ 3,000" (Vivian, 19/02/2018, 3:05 PM)

Additionally, the significant interest in attending overseas conferences seems to imply there is a difference between what participants are offered at their universities and what can be gained by attending international conferences. It is also interesting to note that for a large number of respondents, what they chose to highlight regarding the conferences were primarily the informal interpersonal aspects rather than the prestige of the conference or the value to their home institutions.

in-house PD / workshops

In contrast to more formal conferences hosted far from the instructors' home institutions, in-house PD was expected to be a much more common activity for all involved. It is cheaper for the home institutions, and therefore much more likely to receive support. Further, these events are much more likely to feature other instructors from the participants' informal peer group. Interviewees also revealed they attend workshops after having informal chats with colleagues from this very same peer group, as Mary explained why she is attending an upcoming workshop

> "*one colleague invited me. She is interested. So, she invited me to join because it's like a group collaboration.*" (Mary, 12/02/2018, 4:18 PM)

sharing sessions

Generally, attendees preferred attending sharing sessions that were organised by their institutions as they were more prone to being perceived as immediately applicable to their teaching. For instance, as Ted revealed

> "*It's good to see what other colleagues do and how they approach things. So, the most recent one I went to was the business one, although I don't teach business but I just wanted to see okay, what do they do in business. How do they handle certain problems? Do they do more writing, or do they do more speaking? And how do they collaborate with the business department.*" (Ted, 12/02/2018, 9:10 AM)

Ted further discussed that he enjoyed hearing about colleagues' experience at international conferences at sharing sessions

> "*It's good to see, you know, what conferences are out there. You know, what's happening in Asia or Europe*" (Ted, 12/02/2018, 9:02 AM)

It is common that colleagues who have received internal funding to attend an overseas conference are required to give a short in-house presentation as well as include the highlights from the conference. However, some interviewees saw this as something negative and were uncomfortable giving a presentation in-front of their colleagues (face-threat)

> "*I find it nervous to present in-front of colleagues, they might think my research/ideas are superficial*" (Jennifer, 11/02/2018, 2:42 PM)

Another common impetus for sharing sessions is for colleagues to share recent pedagogy or tools they have tried out.

And Mary indicated she likes to attend because

> "*they are well planned and more relevant to my own teaching context*" (Mary, 12/02/2018, 4:12 PM)

This might be explained by the fact that in-house workshops often involve certain elements of show-tell of best practices. This, in contrast to the more common "lecture" format of most conference sessions, was highlighted by numerous interviewees as being a very valuable thing. However, as Frank reveals, it is often not convenient to attend or present at PD sessions

> "*My timetable this term means I can't attend any. This is the most busy time, I can't go to anything*" (Frank, 14/02/2018, 10:18 AM)

Due to the generic nature of workshops and seminars being offered by various educational centres at the universities, they were perceived to be inapplicable to the context of the teachers. As Jonathan comment

> "*it is all very general, I can't see how it is specifically relevant to my courses*" (Jonathan, 14/02/2018, 5:18 PM)

Additionally, several interviewees (at various institutions) mentioned participating in the Becoming an Online Teacher programme. This certificate programme is offered to develop teachers' ICT skills to become better able to adapt to a new teaching environment, which heavily features a strategic plan involving flipped learning.

Technology integration is a big thing at the moment at the universities in Hong Kong, and administrations are beginning to show signs of being sensitive to how their particular institutions are perceived by the wider community, particularly in terms of affording access to high quality ICT integration. This, then, manifests itself further down

the hierarchy in the form of managers gently (and sometimes not so gently) pushing teachers to bolster their ICT skills. Some instructors mentioned they engaged partly because of this same sort of pressure

> "[*Alex] sent out this email and he specifically said well, you guys should do the BOLT course. So that was kinda like okay, so that, that uh, endorsement was pretty important*" (Monica, 15/02/2018, 10:04 AM)

action research

While a fair number of interviewees mentioned action research in their responses, it was almost universally seen as something which falls almost entirely on the teachers' shoulders to plan, implement, and reflect on. In particular, one participant, Jason highlighted the time demands of action research, and how this was necessarily incompatible with their schedule.

> "*I mean, action research for instance, um, you know, usually, you know, when-when-when you identify a problem in class, you know, and you decided, you know, and you decided to do something about it, then it is often too late before the semester is over*" (Jason, 11/02/2018, 10:14 PM)

6.4.2   Informal professional development

In stark contrast to the more formal types of PD mentioned above, there was an overwhelming level of support and admiration for the informal types of PD that teachers engage with on a daily basis. What was interesting was that this informal type of training did not only involve interpersonal activities, but also more solitary types of activities, and it revealed why teachers engaged in reading professional literature as well as more social PD, such as informal chats with colleagues.

reading (professional) literature

A couple of the interviewees reported engagement with reading professional literature and blogs, for example, in the field. This included journal articles, thesis, books, magazine and blogs. Mary discussed why she likes to read

"*I think reading is something that we don't often talk about, but that is the foundation of professional development*" which can be done anywhere, anytime together with other people, in special interest groups or in even talking alone" (Mary, 12/02/2018, 4:16 PM)

Jason also mentioned that he gains inspiration from reading, but came at it from a different angle

"*Hmm. Um, I don't quite read a lot of journals, unless, for example, uh, they're like LinkedIn That there's an article platform, then I feel that-that I'm interested in that but only they're not quite academic, uh, articles. They're like, um, uh-uh-uh, some like magazine type of article, but they are more practical, yes, so I read*" (Jason, 11/02/2018, 10:24 AM)

Obvious in the above response is the interviewee's tacit acknowledgement that this is perceived as a less institutionally-valued form of PD.

6.4.3 Institutional pressure

Given the highly bureaucratic and hierarchical culture of education in Hong Kong, it was not surprising that this theme emerged among numerous interviewees. As mentioned above, PD, and participation therein, is an influential part of the teachers' evaluations and promotion considerations. It is only natural that this might cause anxiety, as a number of the participants articulated to me.

lack of voice and autonomy

Another important factor perceived as influential on PD engagement was the endorsement of senior people in making decisions for professional developments. Interviewees expressed discontent that they were expected to engage in professional development activities which reflected more the overall goal of the institutions or their centres rather than what they perceived their needs to be. This is illustrated in the following excerpt where one interviewee (Jonathan) explained why he enrolled in the BOLT course

"*Nick (PD Committee chairman) asked us to enrol in the BOLT course as it would be beneficial for the Centre to have many participants but I have very little interest.*" (Jonathan, 14/02/2018, 5:22 PM)

Andrew also shared that he felt the institution had a set goal or each workshop / seminar EDC arranged, and they would not deviate or ask for input on what teachers wanted

"*… the downside is that um, I was hoping to learn a few more tech skills but they seemed to be a bit reluctant to do that. Like, I asked for more help on graphic design, those kinds of things, creating things, making videos but they seem to be a little reluctant to do that*" (Andrew, 13/02/2018, 12:25 PM)

top-down

The annual appraisal (performance) evaluation was also seen as being very top-down where teachers are required to included extensive documentation of the PD activities they have participated in over the year, and which will be assessed. Several interviewees expressed

"*I think generally, you know we have the appraisal system and that's always a place where you can show your certificates for the-for PD work you've done*" (Patrick, 18/02/2018, 11:18 AM)

"*Oh, I need to do this, this so I can show them my appraisal*" (Joyce, 13/02/2018, 10:40 AM)

"*And, you know, I hear people talking, "Oh, there's going to be restructuring in two years, you know, people are, you know-you gotta really boost your resume.*"
(Vivian, 19/02/2018, 3:10 PM)

These statements illustrate that teachers seem at times to attend PD activities not because they are curious to learn but because they need documents to include for evaluative purposes.

To summarise, interviewees seem to find themselves in a very difficult situation, where the PD they are most engaged in is not the same type of PD that the institution values and rewards. While informal PD focused on sharing between colleagues and other interpersonal interactions was by far the form engaged in by most people, it is by nature much less quantifiable. After all, nobody is keeping notes on exactly how long they are chatting to colleagues during lunch breaks.

6.5 RQ 2: What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?

This particular question featured responses featuring a number of various reasons for English teachers' attitudes towards various modes of PD in ICT for enhancing their teaching. Two main themes emerged from the findings and are collated in Table 6.2 that follows, followed by the analysis of the sub-themes / categories emerging within each theme.

Table 6.2
Themes and sub-themes/categories for RQ2

No.	Themes	Sub-theme /categories	N
4	Instructor agency	Attitudes and beliefs	9
5	Motivations for participation	Freebies, continuous learning, pressure	10

6.5.1 Instructor agency

In any discussion of changes implemented in a top-down manner, there is scope for anxiety focused on the extent to which teachers are able to fully control and determine

their own pedagogical practices. It is therefore not unexpected that teachers would voice concerns related to this very tension.

It was highlighted by numerous respondents that they felt a lack of choice and control in the forms and contexts of the PD provided by their institutions. Managers were the ones choosing not only the types of PD that would be offered, but also controlling the scheduling and agenda of these sessions.

Among the PD arranged by institutions at large, interviewees reported that they found them to be inconsistent, and very much geared towards a general audience. This makes sense from an institutional perspective, as PD can be developed (ie, paid for) once and delivered numerous times to different members of the faculty.

> "*I think it's a little bit of a mixed bag. Umm, let me think, the ones I've attended. They really have quite a range. I think they're very-they're professionally done, I really appreciate that. Umm, I'm trying to think of particularly of any ICT ones I went to. Umm, I guess just that they have such a wide audience, maybe the way it's presented isn't so useful sometimes- for our context*" (Joyce, 13/02/2018, 10:32 AM)

Another interviewee, Philip, further highlighted

> "*There were quite a few things that I would never use or have never used. Um, like the theory. I didn't find so useful reading things and then giving each other feedback*" (Philip, 15/02/2018, 6:14 PM)

Generally, the lack of agency in selecting the direction of PD, as well as its relative irrelevance, are experienced as a source of resentment and stress by teachers. As was divulged by Monica

"… because I'm an instructor… so I actually cannot really change, modify any of the layout, or add any of my own content freely in the system so it is not really useful" (Monica, 15/02/2018, 10:11 AM)

A clear pattern emerged from the interviewees that they had little choice in the matter as Jason pointed out

"teachers are strongly encouraged to attend PD in ICT. That's how things are." (Jason, 11/02/2018, 10:32 AM)

So, the value and relevance of these sessions remains questionable. Additionally, Jonathan and Jennifer both stressed that colleagues might feel pressure to attend these sessions, even though they are not useful

Overall, there was a clear lack of teachers feeling like they actually had a say in the nature and focus of PD opportunities afforded them. The interviews revealed a real sense of resignation to an institutional mandate for something that they did see a very real need for, and that was presented in a unsuitable manner for their professional consumption

6.5.2 Motivations for participation

In terms of motivation, there were two primary trends which emerged (not including the institutional pressure discussed above).

freebies

When attending in-house events such as workshops, seminars and lunch-time sharing sessions, various freebies are often provided. Ted and Frank explain:

"free snacks if you go to an EDC session" (Ted, 12/02/2018, 9:10 AM)

"*sandwich when we attend in-house event*" (Frank, 14/02/2018, 10:43 AM)

These two statements point to the possibility that teachers are not attending because they would like to learn something new, but instead because of the free food. However, this might not be a negative aspect as there is the possibility they will pick up some new knowledge even though they are only attending for the freebies.

continuous learning

A positive emergent trend was that several interviewees attended sessions because they wanted to learn and discover something new to rejuvenate their teaching practice.

"*practical, something I can incorporate right away*" (Frank, 14/02/2018, 10:46 AM)

More specifically, they sought out sessions with a direct purpose that would add value to their classrooms.

"*Because I like using Clickers in the classroom and I feel like Kahoot is about getting a bit used too often, so the students are a bit bored with it. So I wanted to just see what other clickers are out there.*" (Vivian, 19/02/2018, 3:32 PM)

Hence, interviewees were curious to discover what others were doing and keeping themselves informed with new developments and perceived learning with a purpose to add value in terms of enhanced capabilities and practice. It also shows that when valuable and applicable sessions are available, the teachers are genuinely interested in receiving tangible benefits from them.

pressure

Several interviewees expressed a concern that they felt pressure to keep abreast with the latest ICT and attend PD sessions as can be noted from the excerpts below

> "*personally, I don't feel pressured, but I have a feeling other people do*" (Jason, 11/02/2018, 10:35 AM)

> "*So, um, personally I don't feel pressured but- I think maybe other people do.*" (Jennifer, 11/02/2018, 2:51 PM)

These types of indirect responses are not at all surprising in the cultural context of Hong Kong, especially when discussing things as sensitive as criticising one's institution. It is clear from these responses that the interviewees feel a significant amount of pressure from above.

Apart from the very general and vague nature of the PD that is provided by their institutions, teachers are also unsatisfied with the very hierarchical nature of how this PD is determined and delivered. There is a definite sense of resentment and tension involving who is allowed to set the agenda for PD, as well as the sense of pressure to attend that teachers are under.

6.6   RQ 3: What are these tertiary English teachers' attitudes and beliefs about integrating ICT in their teaching?

Respondents' answers regarding their attitudes and beliefs about integrating ICT in their teaching varied. Two main themes emerged, creating a complex picture of factors impacting teachers' attitudes and beliefs about integrating ICT in their teaching. These are illustrated in Table 6.3 and will be discussed in further detail below.

Table 6.3
Themes and sub-themes/categories for RQ3

No.	Themes	Sub-theme /categories	N
6	Integration	Student engagement, Teacher engagement	12
7	Teacher Skills	Feeling overwhelmed by technology, computer skills, confidence	9

6.6.1 Integration

This particular theme speaks to the potential for a mismatch between the potential of the technology and the practical aspect of melding it with an existing educational framework. While there is clearly a latent potential, as articulated in terms of benefits for students, there remains a gap between where teachers would like to be in terms of fully including ICT and where the realities of their time, skill level, and content are at present.

student engagement

A majority of interviewees who were favourable towards integrating ICT in their teaching cited student engagement as the predominant factor. In Asian culture and classrooms, it is often noted that students are unwilling to express themselves for a fear of losing face, and here the integration of ICT can be beneficial as noted by Mary

> "*I think students are less hesitant to express their views. when they have to write uh, comments or feedback online and they can always have names. They, you know, they don't have to have their own name, they can have a pseudonym. So they are more expressive*" (Mary, 12/02/2018, 4:21 PM)

This is an excellent example of how ICT can not only augment, but completely reshape the practices that we, as educators engage in: students may be confident that responses are completely outside of the instructors' judgment, not just because the instructor says so, but because the technology guarantees it.

Other interviewees discussed that today's students are already using their mobile devices, so we should meet them where they are and not remain stagnant in our teaching

"*students are more engaged with- because, uh-uh, one of the things is that-that they-they are using their iPhone, anyway. Like they-they do Whatsapp and they do everything, anyway. So, if I engage that to do something different and to use their iPhone in my- uh, for my class purposes, I find that it's more effective*" (Philip, 15/02/2018, 6:25 PM)

Among the ICT tools that emerged as the most popular with interviewees to engage students were Kahoot!, Padlet, and Google. One of the most common reasons given was related to the slick presentation of the application interface, as one Andrew described

"*Easy and at-attractive, but the Padlet I find is, yes, it's bright, it's attractive, it's easy for the students to be there*" (Andrew, 13/02/2018, 12:36 PM)

However, not everyone agreed that all of these new applications were useful. For instance, Patrick revealed he is not in favour of using Kahoot!, Padlet, or clickers with students.

"*Well, not really. I mean, everyone has their own preference. Some colleagues actually really like it, they find it more- they find it more engaging with their students. It's just my style*" (Patrick, 18/02/2018, 11:26 AM)

It is evident from the excerpts that integrating ICT with students can be particularly useful in this teaching context, and another interviewee, Mary, particularly singled out the ability of the technology to facilitate higher confidence by the students.

"*the benefits definitely are more student involvement. Uh, more opportunities for them to express themselves without feeling like they're being identified, more*

anonymous participation, um also, uh variety, uh convenience, um, yeah, those are the main ones" (Mary, 12/02/2018, 4:25 PM)

teacher engagement

Another trend which emerged in the interviews was that teachers felt they do not have enough time to entirely integrate ICT in their teaching and that their course material is not always suitable for such integration.

"*you have to think about it. It takes a bit of preparation time to integrate it too. Especially, you know if you try to, um, deliver a-a blend of learning lesson. I think that requires even more thinking. There's always a risk of students not doing their work. coming to class unprepared. You have to have time [sic] for these kind of things*" (Monica, 15/02/2018, 10:24 AM)

This interviewee clearly addressed the reality that as much prep time as traditional teaching takes (lesson plan, learning objectives, materials creation, etc), incorporating ICT into the lesson adds an extra overhead in terms of both planning and technical sophistication.

Also, Jonathan pointed out that English is not something complex which requires ICT

"And with our teaching, um, in terms of English language it's not as we're looking at something very complex. We're looking at something very simple and – there's not a lot ….The only part ICT is I could ask them to type up their written work on the computer, and show it through the computer, that's it." (Jonathan, 14/02/2018, 5:33 PM)

This point of view makes it evident that this particular instructor is only engaging with ICT in a very cursory way, using it as a technological version of traditional classroom materials and methods. It manifests as a side-effect of the poor training provided (when training is provided at all) for practising teachers.

Another interviewee, Jason, expressed concern as to what actually constitutes ICT and when asked how much he integrates ICT replied

> *"not that much to be honest. Um, I used to use ICT more in the past. it's just the course content, um, I guess, um, is the main problem because we got too much to cover and, um-- well I mean, by using ICT, I don't know whether you mean, you know, using it meaningfully or using it as a storage system. You know, I would upload PowerPoint, uh, slides Word files on-on blackboards But, it's not really using ICT in my view"* (Jason, 11/02/2018, 10:49 AM)

Rather than stating anything implicitly, this particular teacher gets right at the heart of the issue, declaring outright that he had only engaged with ICT as a conduit for course content, not as an actual pedagogical medium.

Another trend which emerged in the interviews was that teachers are uncertain if students are actually doing what they are meant to be doing on the computers.

> *"they are all sitting with their laptops and typing, how do I know that they are actually taking notes and not chatting with their friends"* (Jonathan, 14/02/2018, 5:40 PM)

Time was another emergent trend when discussing integration of ICT with the interviewees. Several of them expressed it tends to be time-consuming

> *"one of them is just, depending on the classroom your are in, it can take like 10 minutes just to kind of get everything powered up and the computers are old and-and that kind of thing. So, it-it takes--it can kinda get you out-out of your rhythm a bit, and I feel like you need to really stay on top of that with the students. Um, I think there's the potential for distraction but I don't see that as a big problem"* (Joyce, 13/02/2018, 10:32 PM)

"*…because people are so busy these days*" (Jennifer, 11/02/2018, 2:50 PM)

"*I think time is tight this year case I'm new staff*" (Ted, 12/02/2018, 9:02 AM)

"*I haven't joined the community of practice, the technology enabled, I just don't have the time*" (Frank, 14/12/2018, 10:41 AM)

Other teachers replied that they prefer traditional teaching methods as can be illustrated by the following extracts

"*I still very much rely on conventional methods I do like my pen and paper. Unless something was absolutely necessary, I'm not eager to try out the next technical gimmick*" (Monica 15/02/2018, 10:41 AM)

"*I'm too lazy to that.*" (Ted, 12/02/2018, 9:23 PM)

These two particular interviewees, Monica and Ted, gave the impression that they also were not the beneficiaries of competent ICT training, and so in light of that context, it is not surprising that they would choose to rely more on tried and true methods that don't impose additional requirements of time, effort, or technical know-how.

6.6.2 Teacher skills

Teachers expressed frustrations with the need to incorporate ICT all at once, and moreover felt their ability to improve their current skill levels inadequate to keep pace with advances. On the other hand, it may be said that confidence is a sort of emotional skill, and the teachers displayed this in large supply.
feeling overwhelmed

When asked what, if any, skills a teacher would need to integrate ICT in their classes interviewees gave varied reasons as will be illustrated below.

"*So for our business courses, the Flipped classroom-- it's based on the Flipped classroom model. So um, all of us have Google classrooms. Everything is on Google Drive. Students submit their assignments as well as their written work on Google Drive. We correct it and get feedback on Google Drive. online as well. Yeah, so uh, this is probably yeah, the course that requires the maximum use of ICT*" (Andrew, 13/02/2018, 12:47 PM)

This was a very common theme in responses, arising often as a sense of resignation amongst interviewees, and those who felt that ICT was being imposed on them against their will were even less willing to make an honest effort at incorporating it than those who merely lacked the requisite training and technical ability.

"*I think you do need to have a few skills. Like some of our colleagues don't have those skills- which is why they don't use it*" (Joyce, 13/02/2018, 10:33 AM)

Similarly, the preceding excerpt shows a clear perspective that one of the main impediments is a skill gap, and not necessarily a lack of willingness or initiative on the part of the teachers.

computer skills

Two interviewees indicated that they spend quite a lot of effort to stay informed about emerging technology available in their profession. As Philip and Jennifer shared their views that

"*You have to have computer knowledge, and constantly update your skills*" (Philip, 15/02/2018, 6:36 PM)

and

"*There is always something new I always play catch-up and it is stressful*" (Jennifer, 11/02/2018, 2:54 PM)

This feeling of always having to expend a high amount of energy to even stay at an average level in terms of skills is surely a drain on teacher morale. That, combined with a lack of time in which to do so, as highlighted by numerous interviewees, is a very high barrier indeed.

Additionally, as one interviewee, Monica, reveals, when discussing if teachers might have any challenges keeping up with the latest technology

> *"Yeah, you have to know how to navigate a computer without-- You know if you have problem using basic window applications, then I think you will have a very hard time using ICT. And if you are- if you have a lot of problems switching between for example Android phones and iOS phones then you're gonna have a problem."* (Monica, 15/02/2018, 10:31 AM)

Hence, receiving appropriate and motivating training in updating their computer and software skills was seen as a crucial factor in integrating ICT in their classes.

confidence to teach

Another emergent theme in the interviewees was confidence, to not be afraid of looking inept in front of the students, or lose face in front of them. This is an extremely serious threat in the eyes of the local culture, and the shortcomings in teachers' skills and abilities, as highlighted above, make this threat very real.

> *"My philosophy has always been, I'm just gonna do the best I can and if it's not good enough they can fire me. [chuckles] Whereas other people are a little bit more like calculating and won't do it because student might think they not good at their job"* (Joyce, 13/02/2018, 10:41 AM)

This is an important point, as it directly relates to how interviewees believe students and society see their profession. It seems a lack of ability, both on the part of students as well as the wider societal mindset, to avoid generalising knowledge in the teaching domain to knowledge in every domain.

In many ways, the particular cultural context in Hong Kong may be ill-suited for the introduction of a technologically advanced pedagogy to groups of teachers who have been trained their entire professional lives, not to mention throughout their own education, to venerate traditional pedagogical methods.

On the other hand, several interviewees took a more optimistic stance and mentioned the importance of keeping an open mindset, as the following interviewees related

> "*I think it's open-mindedness. I still have to be very open-minded with everything. Because I think that-that-that everything is changing every day. So, I have to be open-minded. E-even though I think I have been kind of like a pioneer to do everything, to try out everything already, but I have to be kind of open-minded to new things.*" (Mary, 12/18/2018, 4:34 PM)

> "*I think I should need to push my boundaries and let go of more control*" (Jennifer, 11/02/2018, 3:02 PM)

To summarise then, among the respondents the most significant reason for integrating ICT with their students was that it would better engage them and engender a safe environment for exploration and the chance for non-evaluated self-expression.

Overall, clear trends emerged that teachers saw a benefit for students in terms of more engagement via ICT means. There was a view that it enabled them to participate more in a way that was non-threatening, and in which they were able to feel secure about expressing themselves without fear of personal identification.

On the other hand, it was very encouraging to see many interviewees express confidence in their abilities to engage more fully with this ICT, despite the challenges they face in this regard.

6.7   RQ 4: To what extent do these tertiary English teachers perceive the usefulness of professional development activities and the effect of the perception on their belief in integrating ICT in teaching?

Among the factors identified in how teachers perceive the usefulness of PD activities and the effect of these on their attitudes and beliefs in integrating ICT in their teaching, practical application and PD interactivity were the two main themes. These two main themes and their sub-themes / categories are reported in Table 6.4 and will be further elaborated below.

Table 6.4

Themes and sub-themes/categories for RQ4

No.	Themes	Sub-theme /categories	N
8	Practical Application	discussing with colleagues	11
9	PD Interactivity	practical experience	11

6.7.1 Practical application

Returning to a common macro-theme in the interviews, one very prominent method of learning new skills in ICT which received praise from almost all participants was being informally shown how to use the technology by valued others, most often their own colleagues.

There was also a clear tendency for teachers to perceive conversations and discussions they had informally among themselves as a source of PD. This was highlighted by numerous interviewees throughout. As teachers explain

"*asking Dennis [colleague]. [laugh]like the simple idea Dennis had of using the OneDrive folder with the tiny URL with his students. It never would have occurred to me.*" (Joyce, 13/02/2018, 10:33 PM)

"*I do rely on other people kind of for ideas and to maybe to come and show me a little bit how you do it.*" (Ted, 12/02/2018, 9:21 AM)

Interviewees were very candid in their comfort with being shown things directly by their colleagues. In fact, it is striking that only positive comments were connected to this particular discussion topic. Additionally, this sort of sharing seemed of very practical and tangible benefit to the interviewees.

"*if someone has implemented maybe, for example, uh, we go together to a conference, we listen to the same- I mean, we attend the same seminar, we are interested, and we both implement the same thing, then that dialogue will be meaningful*" (Andrew, 13/02/2018, 12:30 PM)

Interviewees were very explicit in their understanding of their own learning styles, and that they were very comfortable with seeing ICT use modeled appropriately by peers. The prevalent trend among the majority of interviewee was that participating in hands-on training was something they sought out as it was how they learned. As Andrew explained

"*I always advocate. this kind of thing, like a hands-on workshop. that you- maybe it's just a computer lab or maybe it's a place you-you go there and-and do something. And that's how I can learn something*" (Andrew, 13/02/2018, 12:43 PM)

Hence, it was common for interviewees to seek out colleagues informally to chat about how to use ICT, or where they could try out something in a "safe" environment.

6.7.2 PD interactivity

It was a common strand running through interviewees' mentions of their time spent in presentations on how to incorporate ICT that presenters simply presented them with knowledge rather than actual practical examples, let alone hands on training. Although some teachers endeavoured to engage their own students with practical experience in these tools, the PD they received did not always follow suit.

When asked how they prefer to integrate ICT with their students, several interviewees mentioned they like to show the students how to actually use something

> *"Um, I've also used uh, I use a website of my own for just posting my expectations, my rules, uh, little bit about myself. So it's kind of having a PowerPoint as a website, so the kids can always go to the website and just kinda when they have their free time, they can kind of look at some of the things I've written. They're beginning to ask me stuff about stuff like, "Oh, why'd you write that?" "What does this mean?" Right, right so it kinda builds up the interaction how much you know about…"* (Ted, 12/02/2018, 9:29 AM)

This shows that instructors are utilising ICT for its ability to engage the students indirectly, pulling them into a more traditional-style interaction, but triggered by something they experienced in an ICT medium.

> *"just navigating how to use announcement, how to put on the course material, the content, different ways of doing it, the advantages of posting a folder."*
> (Jennifer, 11/02/2018, 3:08 PM)

Other interviewees pointed out that some situations actually do benefit from presenting information via an ICT format as opposed to a traditional paper-based approach. This is illustrated by a comment from Joyce below

"the students see a page of paper with text written on it and they just fall asleep" (Joyce, 13/02/2018, 10:31 AM)

In the interviews, certain expectations of teachers came to light: that they are expected to acquire skills for teaching their subjects successfully using new technology and software their institution had invested in. However, a few of them were disappointed and disillusioned with the training sessions offered, as Philip said

"*the trainer was going at such a rapid speed, and assumed I had all of this knowledge already, I couldn't follow and just gave up*" (Philip, 15/02/2018, 6:40 PM)

This also supports the point made by Ted who had become ever more cynical throughout the training process

"*Basically, he's talking to himself into a microphone. You know there's only four people in a room/ and no eye contact, nothing at all. So, it was just a waste of time. So I never do it.*" (Ted, 12/02/2018, 9:42 AM)

To summarise, the responses to this particular research question almost exactly echoed what has preceded it in the other questions; namely, that teachers favour informal sharing of experiences with colleagues and tend to hold negative opinions of the more formal PD activities. As respondents mentioned, this informal collaboration affords the ability to interact in a human way with their peers and allows them to fully engage with the skills they are attempting to learn.

6.8   Summary

In this chapter, the data collected during the semi-structured interviews has been presented and analysed with attention towards the four principal research questions. I have analysed the reasons why teachers have engaged in certain professional development modes over others in their professional careers. I have also discussed

teachers' attitudes and beliefs towards various modes of professional development in ICT skills for enhancing their teaching. In the chapter to follow, I turn to a wider discussion of these findings within the context of the particular teaching situation it is situated in, underpinned by the literature in the field.

CHAPTER 7: DISCUSSION

7.1   Introduction

With an ability to view the data, both from interviews and questionnaires, side by side with the literature, it is now possible to gain a much fuller view of the situation facing tertiary-level institutions in Hong Kong and their English language teachers as regards PD in ICT. Further, this enables us to begin addressing the research questions in more depth. As a reminder, the research questions are as follows:

1. What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?
2. What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?
3. What are these English teachers' attitudes and beliefs about integrating ICT in their teaching?
4. To what extent do these English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in teaching?

Both phases of the data collection addressed each research question, and broad themes emerged, as will be discussed below. With an appeal to the previously presented body of research literature surrounding this topic, the following discussion will seek to ground the present findings in a meaningful context, Hong Kong and beyond, as well as suggest data-driven proposals for further work and development in the area. The chapter will close with a section outlining the limitations of the study.

7.2   Research questions and findings

The context of English language teaching at Hong Kong's tertiary institutions is as unique as it is complex, and the present work is therefore necessarily abbreviated in some sense. What is clear, however, is that PD continues to be a strong component of both the institutional culture at these institutions, as well as central to the personal and professional identities of these teachers. It is clear from the literature that these identities are emergent and constantly negotiated through interpersonal actions and lived experience. This is the reason why it was so important to collect authentic testimonials from these teachers in the course of compiling the present work.

There are some challenges to this, though also very encouraging preliminary results which emerged from the data, as will be discussed below. Most notably are the themes of positive collaboration and communication, as well as clear areas in which the universities themselves might update policies to reflect the current state of best practice in this area.

Although the findings must be considered with reference to the context in which the data was collected, they help us conceptualise the pedagogy around TESOL and technology professional development at tertiary institutions in Hong Kong.

In the following section, each of the research questions will be dealt with in turn to demonstrate how this study has advanced our understanding of teachers' PD practices and involve an analysis of the data and relevant themes from the literature, followed by the themes from the data itself.

7.3   RQ 1: What professional development activities have the Hong Kong tertiary English teachers studied in this research engaged in to develop their ICT skills?

The first research question established the frequency of engagement in professional development in ICT skills these English teachers have experienced during their professional careers. The data findings from the questionnaire and the semi-structured interviews revealed that participants preferred to engage in certain professional development modes over others.

While it is unsurprising that the teachers are presented with and able to engage in a wide range of PD activities, as has been confirmed in earlier studies (Blank, de las & Smith, 2007; Knight 2007; Vanassche & Kelchtermans, 2014; Desimone & Garet, 2015; Darling-Hammond, 2017), what is notable from the questionnaire results is that there is a clear preference for collaborative sharing with colleagues. Participants shared during the interviews that they felt a sense of belonging in their own peer groups, Hong Kong English language teachers, and in stark contrast to presenting at conferences in unfamiliar settings, their sense of personal identity compelled them to engage most frequently in this type of PD (Prestridge & Tondeur, 2015; Tondeur, et al., 2016).

It is not therefore surprising that this PD would form an integral part of the teachers' shared lived experience, as argued by Heisey (2001), Mead (1934) and Wilkins (2011), and hence lead to high engagement.

Teachers also shared their feelings related to action research, an activity which is usually situated in discussions of TESOL best practice, but which was infrequently engaged in. This particular form of PD consistently ranked at the bottom across all teacher responses. The reasons for this were well highlighted in the interviews, as respondents made very clear their time and energy constraints. What is also notable, however, in regard to the relevant body of literature, is that this activity might be out of necessity a solitary one, especially in this study as the interviewees were more

concerned with the organising of everything as that felt a solitary burden. This form of PD is advocated strongly by the management at these universities, though the extent to which the teachers themselves see a value in it, whether in terms of PD or pedagogical outcomes, is problematic, which is in line with previous research by authors such as Evans (2011).

There are clear themes reflected in both the data and the literature in that they posit as counterparts the formal and informal modes of PD. There is a clear imperative for teachers to fulfill their institutionally mandated requirements, and this seems not to be entirely unwelcome as an outlet for their energies; though, the more informal types of PD were overwhelmingly favoured by the respondents. There was also a clear acknowledgement that there does exist a significant amount of institutional pressure on teachers in the PD arena (McMillan et al., 2016.), coupled with a lack of agency in directing the goals and activities of the same.

There is an indication of a traditional model of professional development activities where teachers are expected to attend sessions on topics selected by administrations, as discussed by Sandholtz (2002) and Darling-Hammond (2017) and where teachers are almost viewed as passive recipients, as demonstrated by Day and Sachs (2004). Moreover, that teachers lack agency in directing their own pedagogical goals is problematic, and stands in contrast to other studies which show that professional development activities should be focused around the knowledge, beliefs and praxis of teachers, which is broadly in line with findings of Opfer and Pedder (2011) and echoed by Patton, Parker and Tannehill (2015).

The primary sub-themes that emerged in this research question were sharing good teaching practice, reading professional literature, attending teaching conferences and action research in their own classrooms.

Sharing good teaching practice was very important to almost every participant, and as such construed a major sub-theme here. This was a particular theme that ran through

all the responses from the interviewees, and was obviously a large part of the institutional experience of all participants. On the other hand, reading professional literature was something that many of the teachers engaged in individually, rather than at the direction of their institutions. Often, however, they took the opportunity to discuss what they had read in collaboration with others, and this was an equally important experience in interviewees' professional lives, and was a clear example of a sub-theme. Attending conferences was also something, as mentioned previously, that galvanised participants, both as a positive and negative experience. It was something that they often did not enjoy, for reasons of institutional pressure and poor quality of presentations, but on the other hand was something they looked forward to based on the opportunity to travel and interact with other colleagues. Lastly, action research emerged as a potentially highly beneficial PD activity, but which was considered completely impractical for various reasons. It was identified as one of the modes of PD to have the highest theoretical value, and interviewees did express a desire to engage in it, though for various reasons found it infeasible, and as such it comprised a separate sub-theme.

7.3.1   Sharing good teaching practice

This study has clarified that sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation) was the PD mode teachers participated the most in. This is generally in line with previous research which found collaboration among equals to be a key factor for successful professional development (de Laat & Schreurs, 2013; Eraut, 2011; Baran & Correia, 2014; Tondeur, et al., 2016; Prestridge & Tondeur, 2015; Appova & Arbaugh, 2018). This is not at all unexpected, as it has always been my experience that although the universities in Hong Kong do set aside budgets for more formal PD activities such as workshops and conferences, there are two primary motivating factors that tend to depress active participation in these.

Firstly, TESOL teachers in Hong Kong tend to be very heavily committed in terms of time. Although the teachers very often would be interested in taking part in numerous

extracurricular activities, they just do not feel they have the time or energy to join, and this seems to echo previous studies carried out (Borko, 2004; Blackmore & Blackwell, 2006; Dede et al., 2009; Vrasidas, 2015).

Secondly, this may imply the cultural context is such that the vast majority of teachers seek out and feel much more comfortable engaging in PD that leverages the power of close interpersonal relationships, as shown by Kyndt et al. (2016). It is possibly for these two reasons that teachers overwhelmingly favour engaging in sharing professional ideas and activities with trusted others, as will be explored and discussed in further detail below.

7.3.2 Reading professional literature

Turning to activities that fell into a similarly predictable pattern, it emerged that reading professional literature in the field of English language pedagogy and technology was something respondents engaged in frequently over their careers.

In contrast to potentially face-threatening encounters such as those likely to be encountered at conferences and workshops, reading literature is something that may be done in the comfort and privacy of one's own office or home. As a further added advantage to this form of PD, it is often the case that instructors combine this with informal sharing among colleagues, as discussed above, and mentioned in a number of the interview responses.

7.3.3 Attending conferences

This study provides evidence to suggest that though respondents enjoy attending English language teaching and research conferences, workshops, seminars or courses in ICT skills, pressure to attend and collect certificates for their annual appraisal means they attend simply to tick a box. In line with other studies (Teräs, 2016) teachers seem to attend PD modes which can be measured using positivist metrics of "success" in

terms of what the institution values and rewards. However, many respondents expressed insufficient funding to attend overseas conferences and had to self-finance overseas conference presentation and this form of PD was considered off-putting even though they realised the benefits of it.

Put differently, respondents felt they had no choice but to attend overseas conferences (e.g. TESOL, IATEFL, and others focused on English language teaching), particularly as they were seen as not only institutionally sanctioned events, but often times implicitly mandated by superiors, as discussed above. Further, the outcome both from an institutional point of view, as well as clearly articulated by the teachers themselves, was their mere presence, rather than any sort of pedagogical transformational change engendered in their classroom teaching by their attendance and/or presentation there.

7.3.4 Action research

The second such professional development mode which was not frequently used was conducting action research into ICT skills. This is also entirely expected, given that it not only must be planned, carried out and evaluated on the teacher's own time, but that the results of this action research are not typically suitable for submission for publication, which is something Hong Kong tertiary institutions are strongly encouraging. Therefore, despite the high potential for reflective practice afforded by action research, it tends to be seen as something over and above what the instructors are already responsible for in their normal day-to-day teaching.

7.3.6 Summary

As a general trend in response to the first research question, there was a clear preference for informal, collaborative, interpersonal types of PD over the formal, solitary, isolated forms. The wide body of literature contains numerous examples supporting that the human aspects of PD are those which are necessarily more engaging, such as the work of Desimone (2009), Putnam and Borko (2000), and Albion et al. (2015).

It is a bit challenging to control for the consequences of institutional pressure since this PD is, to some extent, mandated as an employment requirement, so we cannot ascertain if every teacher would still take part even if it were 100% their choice. It is therefore not possible in the present study to determine whether English language teachers would still engage in any PD at all in the absence of such pressure.

7.4   RQ2: What attitudes towards the different forms of professional development for ICT skills do these tertiary English teachers hold regarding their potential to enhance teaching?

The second research question was primarily interested in uncovering a more subjective measurement, teacher attitudes and perceptions, such that it might be used to craft a more comprehensive and nuanced view with respect to the first research question.

The data from both the questionnaire and the interviews demonstrated very similar trends to the first research question, as will be further discussed below. The teachers were clear in their preference for sharing good teaching practice with their peers, and they also exhibited very positive perceptions of participating in learning activities involving a heavy interpersonal aspect and social interaction with other teachers. One interesting result was that attending conferences and similar events scored almost as highly as taking part in an interpersonal network, and the implications of that will be explored in the following section.

The distinction between participation in a network and attending conferences (and similar events) is a bit more difficult to unravel. In view of the answers to the previous research question, in which respondents clearly expressed a low interest in participation at conferences, it may in fact be the case that they very much would like to attend, but perhaps there is a cost constraint that prevents them from doing so. As mentioned by the participants, English language teachers tend to have a modest budget for their own

professional development and attending overseas conferences such as the annual TESOL convention or IATEFL might not be possible due to financial constraints.

Similarly, low ratings were recorded for "reading professional literature" and "action research", and one may conclude that, at least in terms of action research, it was deemed less beneficial for the reasons provided in the previous section. That leaves us to explain only "reading professional literature", though it is also reasonable to assume that for many teachers, this suffers from similar issues regarding time constraints. The professional literature is often geared more towards theory than practice, and in the absence of any simple activities that instructors can readily deploy towards their practice, this literature may prove of limited use to them.

Further, and as will be highlighted below in the interview section, a vast majority of the teachers may prefer to focus on the practical aspects of teaching, especially in regard to integration of ICT. It is a shortcoming of the particular survey question that no possible discrimination can be drawn between literature focused on theory, versus that focused on practical application, and it is a direction for future study to investigate teachers' preferences across these two distinct types of professional literature.

In the context of the above discussion, it is very interesting to see the following themes emerge from the data; namely, instructor agency and motivations for participation. Instructor agency cut across the different responses from various interviewees, and was a very important issue for multiple participants. Motivations for participation also played a large role in the responses of numerous interviewees, and as such merits its own sub-theme.

7.4.1 Instructor agency

Overwhelmingly, and particularly in Hong Kong, institutions tend to be the arbiters of all policy related to PD. This was discussed at length in Chapter 2, and so it was expected that the respondents would echo this in their interview responses. While institutions do

tend to view PD as a means to increase the professionalism of the teachers, as seen in the work of Czerniawski, Gubereman, and MacPhail (2017), there is little attention to exactly how this is accomplished.

As discussed earlier in this section, it is a bit problematic to make substantiated claims regarding the effect of institutional pressure on the specific findings. While it is clear that teachers seem to express a preference for activities that lack a very strong institutional component, such as sharing teaching practice and participating in a network of other teachers, it is unclear the extent to which this is a causal relationship. This is a clear area of need in future research on this topic.

The basic concept of teachers' agency focuses on the importance of PD as a process in which teachers' knowledge and beliefs are updated in their context of work (Tondeur et al. 2016b). Thus, in terms of ICT integration in the English language classroom it is problematic that teachers are not seen as being in control and partly unable to shape their self-identified needs of PD in technology. Teachers feel an acute lack of involvement in the process of ICT planning at their institutions.

As was mentioned by numerous participants, they experience institutional pressure to participate in PD, and more specifically this pressure is leveraged against particular forms of PD, presumably since they benefit the university. Furthermore, the teachers themselves are unable to influence the direction of policy as regards PD, a fact which has been argued to negatively impact PD outcomes, as expressed by scholars such as Opfer and Pedder (2011) and Tondeur et al. (2016).

7.4.2 Motivations for participation

While multiple different motivations for participation were found among all respondents, the most prominent among these were completely extrinsic to the PD itself. It seems clear that the instructors are committed to continuing their own professional development in pedagogy around English language teaching and technology in

education. What is less clear is the extent to which externally mandated PD might be compatible with this drive and help teachers to make technology an integral and mainstream component of the course delivery.

Conversely, participation was also motivated not purely by rewards, but by externally-directed pressure from institutional figures. Numerous interviewees described emails and other forms of communication from superiors featuring implicit pressure to attend institutionally prescribed PD sessions. These sessions were often not representative of the learning context in which the teachers were involved in their actual classrooms. Instead, they predominantly focused on what the universities considered to be effective use of technology in the classrooms.

To keep up with the trends of best practice in ICT, teachers need constantly to learn and relearn as devices and applications evolve. This was evident in the interviews as teachers sought out new software to use with their students, and where others found it overwhelming with the numerous options available and how to actually incorporate it in their classrooms, which is also discussed in the literature (Kessler, 2018).

7.4.3   Summary

Overall, it seems that motivation, both from the viewpoint of teachers as well as institutions, could be much more closely aligned. The instructors are interested in developing as professionals, and new competencies are quite germane to implementing ICT in the classrooms (Hubbard, 2018; Son, 2014) and the institutions have a stake in exactly this kind of continual improvement. Moreover, it is clear both from the present data as well as the literature that the PD, especially that focused on ICT, is lacking in incorporation of viewpoints and direction from actual teachers, as indicated in the results of Borko (2004), Timperley and Alton-Lee (2008) and Liao et al. (2017). To prepare teachers for the increased interactivity and mobility that ICT brings to language classrooms (Kessler & Hubbard, 2018) we need to ask teachers about their pedagogic goals and how this can best be achieved through the effective use of ICT.

7.5   RQ 3: What are these tertiary English teachers' attitudes and beliefs about integrating ICT in their teaching?

This particular research question was characterised by polarised approaches to the very notion of ICT in the classroom. The predominantly positive attitudes were mostly regarding the potential for technology to assist the teachers and their students in achieving the educational outcomes of the coursework. However, the negative responses were thematically grouped around apprehension of the unknown, the skill gaps of educators and the time constraints of developing these new skills.

Encouragingly, similar themes emerged in responses in terms of preferred methods of informal PD, and this is perhaps an avenue for further exploration in future research. Several interviewees expressed very positive attitudes towards collaborating with colleagues in sharing skills and advancing their knowledge of ICT capabilities. As with the two previous research questions, this one clearly highlighted that teachers do, in fact, possess an internal drive and desire to enhance their own professional skills.

In terms of sub-themes, the two most salient ones were integration and teacher skills. Integration was something that was mentioned very frequently across numerous respondents, and was also something that was on the minds of multiple interviewees. Otherwise, teacher skills were also something that jumped out as necessitating particular focus. The responses clustered around whether teachers have adequate skills to address the needs of integrating ICT in the modern classroom.

7.5.1 Integration

The teachers very clearly brought the theme of integration of technology to their classrooms, both in terms of the students' engagement as well as their own, to the fore. This was an important finding, as universities have designed classrooms to encourage active learning and enable collaboration between teacher(s) and student as well as amongst student groups. There was a distinct bent towards the capacity of this

technology to enhance educational outcomes in teaching language skills and knowledge in the classroom, both directly and indirectly. This is a particularly pertinent finding as the majority of the courses in Hong Kong consist of digital teaching material, pre-packed lesson plans with online activities which blurs the physical and virtual contexts.

There was a consensus that the students in Hong Kong overwhelmingly expect more ICT in the classroom, and further, that they are predisposed to interacting with learning content in English through digital media. It was very much felt that the teachers wanted to meet the students halfway, rather than continue with a very top-down approach to the classroom pedagogy which has traditionally been the norm. This correlates with previous studies where teachers continue to learn to adjust to changes in the society, with a concurrent impact upon the teaching profession (Vangrieken et al., 2017; Grosemans, et al., 2015).

Moreover, the teachers themselves described feelings of elevated engagement when utilising ICT methods and materials in their language classrooms. Multiple respondents mentioned the way in which it allowed them to accomplish common tasks in a more efficient and repeatable way and gave examples of how students can connect their own devices (tablets, smartphones, laptops) directly to the MoCoWs for group collaboration and presentation intended to encourage authentic English language learning, and especially that it conveyed a satisfying sense of identity as a modern professional.

English language teaching at the tertiary level in Hong Kong can, depending on the course, still be seen as an example of a "transmission" approach to learning due to the large number of students in one class; however, language teaching is a mode of communication and teachers should be encouraged to consider how technology might be fit their teaching context (Li, 2017). For example, teachers should be the ones to select, evaluate, and integrate the ICT tools with the language content in their own classrooms rather than a more top-down approach. Taking into consideration that in the technology-facilitated classroom, the role of the teacher in learning activities is often

less directed, so teachers need to have a good foundation of what works and not in their teaching.

7.5.2 Teacher skills

The responses clustering around the theme of skills were a bit more mixed. Among these, a sense of struggling with the new types of skills such as using the various functions (blogs, wikis, breakout groups) of the Virtual Learning Environments (VLE) to support their courses demanded by integration of ICT in the classroom was evident, which has also been highlighted in the literature (e.g. Avidov-Ungar & Forkosh-Baruch 2018; Tondeur et al., 2016). Various respondents expressed a strong desire to increase their level of pedagogical skill and facility with ICT, though lacked a clear idea of where to begin. What is needed in the Hong Kong context is PD targeting small, incremental, manageable steps the teachers would be able to take themselves, with a reasonable amount of institutional support. English language teachers' pedagogical abilities with ICT and their skills form a fundamental aspect of effective integration of ICT in their classrooms to teach the English language (Hubbard, 2018; Son, 2014).

Teachers were motivated to incorporate technology in their classrooms, but as the interviewees revealed they can also be easily de-motivated when technology works not as expected, or even at all, and lose face in front of their students. Tertiary institutions in Hong Kong are moving an increasing number of courses or parts of courses online, leading to less classroom teaching on a course and more self-directed learning taking place on the VLE. Thus it is only natural that teachers become familiar with the plethora of technology – digital resources available for learning. The effective integration of this aspect is contingent upon teachers use of the technology (Cabanatan 2003; Li, 2014).

Professional development is stands as one of the most relevant methods through which to enhance teacher ability and attitude, and therefore training of these needs to be recurrent with a focus on both pedagogic and technical facets. Moreover, factors including style of learning, assessment methods, culture and curriculm should be

factored in when consideration the most effective method of applying technology to in-class teaching (Li, 2018). Professional development should include practical and realistic opportunities for use and integration in the language classroom (Eaton, Wagner, Hirashiki, & Ciancio, 2018). By doing so, TESOL teachers in Hong Kong and beyond can move past their comfort zones as they develop their kills, knowledge and understanding of ICT.

7.5.3 Summary

This research question presented clear direction for improvement in the processes of institutions as regards PD in ICT in terms of the broad strokes necessary for improvement of what is currently being implemented. What is lacking, however, is a more fine-grained recommendation for just how these improvements might work in practice.

Of note is the fact that there were very mixed reactions to the very concept of using ICT as an integral component in the classroom. It is not surprising, therefore, that there has not been overwhelming success at integrating this new classroom resource, given that teacher attitudes towards ICT itself have been shown to correlate with the success of the PD in the work of Prestridge (2012) and Sadaf, Newby, and Ertmer (2016). This is all the more pressing, particularly in the Hong Kong context, in light of Kessler's (2018) findings that most features of English language teaching could benefit from some integration of technology in the classrooms.

In particular, the Hong Kong context presents unique challenges to effective integration of ICT into the classroom. As mentioned previously, the education culture is rooted in traditional approaches of knowledge reproduction incorporating a clear preference for strict hierarchical structures and top-down control. What is lacking is administrators clarifying to the English language teachers the underlying reasons for adopting technology in their classes. This obviously has implications for the teacher-centricity of the classrooms, as some authors (Tondeur, Van Braak, Ertmer, and Ottenbreit-Leftwich, 2017) have argued a correlation between those favouring a teacher-centred approach

to teaching and views of technology as not important for today's classroom. Literature surrounding English language teaching has emphasised that for effective integration of ICT in language classrooms to occur teachers need to understand and embrace it in their own context (Healey, 2011).

7.6   RQ 4: To what extent do these tertiary English teachers perceive the usefulness of professional development activities and the effect of the perception on their beliefs in integrating ICT in teaching?

In turning to this final of the four research questions, very clear trends are emerging, in that not only do teachers engage the most in sharing good teaching practice, and not only do they rate it the most highly in terms of enhancing their teaching, but they also clearly perceive it to have the highest value for assisting them to integrate ICT in the classroom. This is a result similar to other studies reporting that collaboration between colleagues participating in a meaningful exchange of ideas and practice is highly beneficial in terms of the PD outcomes (Van den Bergh, Ros, & Beijaard, 2015; Desimone & Gareth, 2015; Kennedy, 2017; Prestridge & Tondeur, 2015)

As has been mentioned in the discussion above (see: sections 5.2 and 5.5) teachers like sharing teaching practice and the institutions should capitalise on this and support it by giving teachers time and financial resources to do it more on work time. In contrast, few are conducting action research, so it is suggested that institutions stop compelling teachers to do this kind of PD. Instead, a focus on collaborative PD would be more positively received and lead to better outcomes.

In terms of the final research question, practical application and PD interactivity loomed large in terms of the issues that teachers were interested in regarding this specific question.

Practical application was something that interviewees were unanimously in support of. It was a common refrain that respondents wanted more interactive and hands-on practice

with different aspects of ICT. As TESOL teachers are encouraged to guide their students in real-world usage, particularly in the context of communicative language instruction, it is not surprising that they would expect the same standard of authentic usage in their own PD. There was also a general dissatisfaction with the lack of very good resources for this in the existing ecosystem.

PD interactivity was the final aspect that teachers seemed to agree was something that we should strive for. In the predominance of cases, it seemed teachers were not convinced that the majority of conferences and workshops offered actually conformed to this expectation, and it would be a very easy win to bring conferences in line with what teachers actually want.

In English language teaching, ICT is today incorporated generally by most language teachers and learners (Healey, 2018), and teachers' pedagogical abilities with ICT tools and their skills form a fundamental aspect of effective integration of ICT in their classrooms to teach the English language (Hubbard, 2018; Son, 2014).

7.6.1 Practical application

Attaining practical experience with the technology was something that numerous participants expressed a desire for. This is a positive finding as teachers' openness to change influences their willingness to integrate technology in the classrooms. The interview responses also showed that the majority of this practical experience came at the hands of their colleagues, and was organised informally.

In opposition to the most common types of PD which feature predominantly knowledge-based outcomes, as discussed by Korthagen (2017), what teachers are primarily interested in is PD focusing on application and practical outcomes using technology. This fits well with previous research by Almerich et al. (2016) and Albion et al. (2015), in that this type of PD would be much more holistic and contextualised in the human experience of these teachers.

English language teachers need practical application training to operate new forms of ICT, but perhaps more importantly they need to see how this fits in so they can modify the way they teach. This is an important finding as Son and Windeatt (2017) put forward the argument that English language teaching today is seen as equal with the use of ICT as it provides multiple authentic language teaching and learning opportunities.

English language teachers in the context of Hong Kong are very concerned about face as was evident in the findings, and are not willing to some extent to integrate technology into their language teaching if they do not feel confident and competent using it. A change of mindset is required so they realise it is acceptable to make mistakes, especially in terms of integrating technology in their classrooms.

7.6.2 PD interactivity

Existing PD in Hong Kong primarily focuses on teachers watching non-TESOL teachers present things, instead, what we need is for more workshop-type PD in which teachers are able to perform the same ICT-involved activities similar to how their students would experience it in the classroom (Ertmer et al., 2012). This may lead to successful integration of technology in the English language classrooms in Hong Kong as teachers are able to match existing activities to their pedagogical purpose and to evaluate such materials in the PD sessions (Hubbard, 2018; Son, 2014).

Further, a focus on traditional styles of PD, where presenters transmit knowledge to participants is not anywhere near varied and contextualised enough to serve the needs of today's teachers. Any serious attempt at equipping these instructors for what is necessarily a highly varied and adaptive teaching environment using state of the art active learning classrooms, including Apple TVs and MoCoWs must itself be highly adaptive, as supported by the findings of Ward-Parsons, Winneur-Akrum and Morewood (2016) and Martin, Kragler, Quatroche and Bauserman (2014). In addition, the types of flexible and multi-faceted teaching strategies necessary for effective

integration of ICT in the TESOL classroom must be experienced and tinkered with, as found in the work of Baran, Correia, and Thompson (2011) and Comas-Quinn (2011), rather than merely read off of a page. Otherwise, TESOL teachers' teaching practice will not be elevated and integration of ICT tools might not be effective.

7.6.3 Summary

As stressed in the literature review, we are in a period of fundamental shift in the teaching profession as a whole. The need to incorporate ICT in English language teaching is no longer possible to ignore, alongside tertiary institutions moving part of, or even entire courses, online to save money, and the increasing demands on today's teachers to cope with integrating it into our classrooms. This comes along with a need to completely re-envision our entire approach to integrating ICT in the English language classroom, and several authors (Laurillard, 2016; Tsybulsky & Leven, 2017) have argued for the role of innovative PD at the forefront of this transition.

Moreover, it has been posited that effective integration of ICT into teaching requires skills which many teachers have never had a chance to work on before, as noted by Gerbic (2011) and Tondeur et al. (2017). This is an obvious argument for a completely new approach to PD in ICT rather than more of the same. Similar conclusions have been reached by Alammary, Carbone, and Sheard (2015) regarding the additional demands on teachers to judge how best to blend the virtual and physical classrooms.

It doesn't help that most PD is under-supported (Parker & Patton, 2017, Teräs, 2016) while teachers are being pressed to do more with less and take on more varied roles within their institutions (Blackmore & Blackwell, 2006). Worse yet, the PD that does exist has a tendency to be viewed as something other than a serious opportunity for professional growth and development (Appova & Arbaugh, 2018). This correlates with previous studies which found that English language teachers often receive insufficient, unsuitable, unrelated and obsolete training (Kessler, 2018).

To successfully integrate technology in the English classrooms at the tertiary institutions in Hong Kong, teachers must be exposed to and trained in the capabilities of technology to facilitate and increase aspects of language teaching.

Thus, it is clear that current approaches to helping teachers integrate ICT in their classrooms more effectively is not itself very effective. However, there are encouraging themes and ideas emerging from the data regarding how this process may be enhanced in future to assist teachers in doing this more effectively.

CHAPTER 8 – CONCLUSION

8.1   Contributions to Knowledge

No study can provide a conclusive understanding of pedagogical practice as complex as professional development which deals with the human factor on multiple layers. This study deals with two very large and nuanced areas: PD and ICT integration into the classroom. Building upon the work of previous researchers, as well as extending that work into novel contexts, my work has hopefully provided some small advancement in our understanding of the factors that influence teachers' perceptions and beliefs, which in turn influence the effective integration of ICT into pedagogical practices

The primary novel contribution of this thesis is in highlighting the issues surrounding PD in ICT in the tertiary level context in Hong Kong. This is, to my knowledge, the only study of its kind to examine these issues in this particular context. Hopefully, the contributions found in this thesis will help administrators, teachers and teacher-trainers to advance the professional development of tertiary English language teachers in Hong Kong and beyond.

The study highlights the importance of professional development to English language teachers, which to some extent is directed by intrinsic motivation, and also clearly impacted by external factors. Informal collaboration remains a driving force behind much of the PD that these teachers engaged in, though they also clearly did so for reasons relating to pressure, both from their immediate managers and the wider institutions. The current study echoes the previous research that time is an important factor and should be taken into account when considering design of PD programmes for teachers.

The study expanded our knowledge of teacher professional development. Little research existed targeting English teachers in tertiary education, much less this particular cohort in the context of Hong Kong. Further what little research there was emphasised almost exclusively the inputs and outputs to this process. The current study

adds both a previously missing focus on this particular group of educators, as well as a wider examination of the underlying attitudes and beliefs that clearly impact their ability to benefit from PD.

The results of the study contributed to a body of evidence that informal, collaborative, interpersonal PD are preferred by teachers over larger sessions; and further, that they found these to be the most beneficial for enhancing their teaching and learning practices in integrating ICT in actual classroom teaching. In addition, this study solidified our understanding of the role of hands-on practice in the development of teachers' abilities to utilise ICT. This hands-on practice was found to be richly expressed in social environments with valued others, particularly their colleagues, rather than attending institutionally mandated PD sessions. There is also evidence from this study suggesting that time and space could be set aside for time to talk, including modeling among colleagues, implemented to showcase effective strategies and practice.

Moreover, the results indicate that PD needs to be sustained, and the existing one-shot, sit-and-get approach to professional learning is not sufficient and should be used sparingly. Teachers need time to build trust, to meet and discuss, and implement new teaching strategies and tools in the classroom.

This study adds to our holistic understanding of the relationship between perceptions and implications of PD in ICT. Finally, the study provides us with an improved awareness of tertiary English language teachers' PD practices which are vital to enhancing the emerging research area of PD in ICT skills at the tertiary level in Hong Kong and beyond. Overall, the key ideas emerging from this thesis demonstrate the importance of teacher agency and buy-in for professional development and that the keys to change lie in the professionalism of understanding teachers' needs and the type of professional development they prefer.

These contributions must be considered within the Hong Kong educational context as PD should generally be considered within its own context. While it is important to

become familiar with tertiary English language teachers' PD practices in different countries, the findings in this thesis might not be applicable to other educational systems due to sociocultural and political factors. As discussed in the literature review (chapter 3) PD often failed to provide deep and meaningful learning opportunities (Appova & Arbaugh, 2018). This has practical implications and will be discussed below under recommendations for improving the PD in ICT experience of tertiary TESOL teaches in Hong Kong and beyond.

Given the findings in this thesis, I would now like to offer some initial thoughts on possible ways forward. I would like to acknowledge that numerous factors could contribute to the area of professional development and ICT. I do not suggest that the ideas are either conclusive or comprehensive; rather I hope that they will facilitate discussion around the various stakeholders who might contribute to the enhancement of professional development in practice.

8.2   Practical Implications and Recommendations

This study has shown a number of pertinent findings which can be implemented to advance the pedagogy around TESOL and technology in education via the enhancement to the existing professional development modes and delivery. Improving PD of teachers at tertiary institutions in Hong Kong and beyond is dependent on moving away from the traditional, hierarchical structures and top-down models of PD. English language teachers have an intrinsic desire for continuous learning and institutions must channel this drive towards productive forms of PD. By giving teachers agency to self-direct their own PD they will no longer be passive recipients and feel institutional pressure to attend sessions not suitable for them. This section presents practical implementations and recommendations for university leaders, professional development educators and English language teachers.

8.2.1 Policymakers and University leaders

The findings illustrate that teachers' professional development appears to be dominated by what institutions mandate and determine to be vital in transforming the tertiary sector to be part of the academic global elite, and unfortunately not what English language teachers consider to be their actual pedagogical needs and/or wants. This is evidenced by the contrast between the overwhelmingly positive perception of informal, collaborative, interpersonal PD and with the existing status quo where teachers receive emails from managers to attend sessions, they feel are irrelevant to their own context. As this study found, teachers have an intrinsic desire for continuous learning and institutions must channel this drive towards productive forms of PD. This is an important finding that has implications for teachers.

By giving teachers agency to self-direct their own PD they will no longer be passive recipients or considered empty vessels to be filled and feel institutional pressure to attend sessions deemed not suitable to enhance their pedagogical knowledge and skills. As universities and teachers struggle in making good use of digital technologies, I suggest there should be institutional support and time given for English language teachers to actively develop their own professional capacity, as this was highlighted in the findings and in the literature review as one key aspect leading to positive learning outcomes. Providing teachers with the agency to self-direct their PD is imperative (Kennedy 2016; McChesney & Aldridge, 2017) for them to buy-in, and strategies should be aligned in relation to content in regard to teachers' own classes and needs and not only according to the institution's perceived needs.

Another germane recommendation I suggest is that the institutions revise the annual appraisal system as measuring PD is problematic, and this tends to focus on PD which is easy to quantify. Instead, institutions should allow teachers to self-report data which has proven its merit as a way of gathering data (Desimone, 2009; McChesney & Aldridge, 2018). PD needs to move away from asking teachers to be held accountable, but instead to give account for their PD.

8.2.2 Tertiary English Language Teachers

This study focused on professional development in ICT from the perspective of tertiary English language teachers in the Hong Kong context. The study found that teachers are not the main decision-makers in their professional development practices. Instead, there exists a multifaceted connection between institutions, professional development coordinators, and teachers' perceptions of beliefs and attitudes. This is an important finding as it has implications for how teachers perceive the pedagogy they are exposed to in the professional development arena. English language teachers are strongly encouraged to integrate technology in their classes, and institutional agents believe teachers will gain the required pedagogical know-how in these institutionally mandated PD sessions.

However, as this study demonstrated teachers feel constrained by the catch-all type workshops and seminars being offered. This is key as the avenue of organic relationship is their preferred mode of PD, and it is worth exploring further the potential to outperform prescriptive PD. In these informal settings teachers feel comfortable with sharing teaching and learning practice among equals. This is a fruitful avenue to explore as it appears to help teachers gain a better insight of how to incorporate pedagogy around TESOL and technology in education, which could in turn help inform teachers' practice.

8.2.3 Professional Development Educators

Professional development educators (teacher-trainers) must understand teachers' needs and help them to explore and tinker with ICT tools situated in their own classroom experience. As the findings further illustrate, English language teachers became more familiar and confident with using ICT from informally meeting their colleagues and not attending mandated workshops or other modes of PD.

As evidenced by the literature review and supported by the findings, teachers frequently did not receive the training or guidance they believed necessary to incorporate ICT in their teaching. Teacher trainers need to be more vigilant and better informed about

teachers' actual needs and provide practical application. As each context is unique, a bespoke PD to a certain extent for each teacher is required, instead of a catch-all approach. In this fashion, it might be possible to increase teachers' level of skills and facility with ICT in a step-by-step approach by focusing on contextual application and practical outcome.

Overall, the fit between the stated policies of the institutions as regards PD and teachers' own goals needs to be further examined, so the transfer process of skills and knowledge centered around pedagogy, TESOL and technology in education can be improved. It is my hope that this will lead to healthier and more effective professional development programmes at the various institutions.

8.3   Limitations

The first limitation present in this study is that the scope is somewhat narrow, taking into account responses from a small number of respondents (54 questionnaire respondents, and 12 interview participants). As such, it is necessarily limited only to their views and may or may not be completely representative of the average English teachers at tertiary institutions in Hong Kong. Additionally, the participants may, for instance, be more involved in PD than others, or they may hold an overly positive or negative attitude to PD and ICT which may have biased the findings.

Another limitation of this study is that no decision makers were involved. The views and perspective of a higher number of participants as well as decision makers would have added a additional breadth to this study. Nevertheless, this is something future research might benefit from taking into consideration. The third limitation is the data collection methods, given that questionnaires and interviews were the data collection used; data from observations of how PD modes are being delivered, teachers interacting at workshops, sharing sessions and other PD modes would have hopefully added greater depth to the findings presented herein.

Additionally, after further reflection on my data and the manner in which I chose to approach it, my insider position has shown its influence in the data collection and analysis. As mentioned in section 2.1, it was my belief that my experience of being a practising teacher embedded within the context of this particular group would enable me to share experience and possibly gain insight into the emotions and reactions of the teachers themselves. I will readily admit, though, that even though I intended to obtain an unbiased sample, I approached those that more closely shared a similar background to my own in terms of international teaching experience.

However, despite the limitations and shortcomings discussed above, there are still several benefits of the study. Primarily, while conducting the literature review it was noticeable that very few studies had been carried out in the context of Hong Kong tertiary institutions exploring professional development in ICT engagement, skills, attitudes, beliefs and perceptions of English teachers. The results of this qualitative study thus contributes to the growing body of work and yields up-to-date information on teachers' perception of professional development modes as well as identifies factors seen as beneficial or inhibiting PD uptake, which all adds to the limited literature on PD ICT at tertiary institutions in HK. Further, as there were participants from all the major universities in Hong Kong, the results may prove useful to all English tertiary teachers in Hong Kong.

Another strength of the study is that by the researcher being a member of various professional development communities and initiatives at tertiary institutions in Hong Kong, a unique perspective may be brought to bear which may hopefully have a positive effect in terms of directly helping to inform professional development planners of valuable insights into the nature of PD at a time of considerable change (society and curriculum) and thus open discussion for how PD can be situated more effectively. This has led to various findings of interest, which are outlined along with corresponding recommendations in the section below.

8.4 Possible future areas for research

As with most research studies in PD, issues have emerged that may prove of further interest to researchers. The literature review has highlighted the limited research available on English language teachers' PD in ICT at the tertiary level in Hong Kong, Asia and beyond. It is hoped that future studies in PD may benefit and extend the present findings to further the study of PD and ICT.

As recent research has found, PD is increasingly seen as something that occurs informally, and often implicitly (Eraut 2004, 2007; Kyndt, 2016; Evans, 2018; Macia & Garcia, 2016).

Thus, to continue to investigate and contribute to the PD field we need to change the direction and place emphasis on the informal and implicit processes of professional learning. In this way, I hope PD will advance towards an emphasis on how teachers can best continue to evolve, and further research in this vein should therefore be encouraged and welcomed.

8.5   Personal reflection

My EdD journey has been a fruitful experience for me both personally and professionally. I had hoped that when embarking on this journey, I would be able to shed light on the existing professional development situation at Hong Kong tertiary institutions and explore as well as present new insight on issues which will prove useful to all those involved in this evolving field, not only in Hong Kong. I discovered answers to the question of why tertiary teachers in Hong Kong prefer certain professional development modes over others, as well as their attitudes and beliefs regarding PD.

At a personal level, like most EdD students I'm sure, I have felt overwhelmed with the daunting task of understanding all the information available, and the direction of the research in various phases. However, as I have reflected throughout the journey, this

study has emerged as an answer to the question I raised for myself when starting my EdD journey at Exeter in the summer of 2014; namely, what is professional development all about and how can one facilitate teachers' development.

As I conclude this thesis, I feel better informed about professional development than at the beginning of my study. I'm also glad that my thesis has succeeded in finding a new way of thinking about PD which may hopefully serve in some small way as a basis for a range of future research project not only within an English language teaching, but also more general educational, context.

8.6   Concluding remarks

In this final chapter, I have presented a summary of the key ideas gathered in this thesis which may help to inform professional development planners in Hong Kong and beyond of the current perceptions of tertiary English language teachers' PD. I also discussed possible future areas for research, and finally, I have finished the chapter with a personal reflection on how I have grown during my journey through my research for the EdD Thesis. I hope that this research will encourage other researchers and teacher-practitioners to conduct follow-up research in the field of PD and ICT at the tertiary level investigating English language teachers' in Hong Kong and beyond. Professional development is anything but constant and we as a profession need to continue to innovate in imagining various PD mechanisms for achieving educational improvement.

REFERENCES

Alammary, A., Carbone, A., & Sheard, J. (2015). *Identifying criteria that should be considered when deciding the proportion of online to face-to-face components of a blended course.* Paper presented at the 48th Hawaii International Conference on System Sciences.

Albion, P.R. & Ertmer, P.A. (2002). Beyond the Foundations: The Role of Vision and Belief in Teachers' Preparation for Integration of Technology. *TechTrends: Linking Research and Practice to Improve Learning, 46,* (5), 34-38.

Albion, P.R., Tondeur, J., Forkosh-Baruch, A. & Peeraer, J. (2015). Teachers' professional development for ICT integration: towards a reciprocal relationship between research and practice. *Education and Information Technologies, 20,* (4), 655-673.

Almerich, G., Orellana, N., Suárez-Rodríguez, J., & Díaz-García, I. (2016). Teachers' information and communication technology competences: A structural approach. *Computers Education*, *100*, 110–125.

Altman, D.G. & Bland, J.M. (1996). Comparing several groups using analysis of variance. *BMJ,* 312, (7044), 1472–1473.

Altheide, D. L., & Johnson, J. M. (1994). Criteria for assessing interpretive validity in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 485-499). Thousand Oaks, CA, US: Sage Publications, Inc.

Appova, A. & Arbaugh, F. (2018). Teachers' Motivation to Learn: Implications for Supporting Professional Growth. *Professional Development in Education, 44*, 1, pp. 5-21.

Avidov-Ungar, O. & Forkosh-Baruch, A. (2018). Professional identity of teacher educators in the digital era in light of demands of pedagogical innovation. *Teaching and Teacher Education, 73*, 183-191.

Babbie, E. & Mouton, J. (2008). *The practice of social research, South African edition.* Cape Town: Oxford University Press Southern Africa.

Babbie, E. (2013). *Social research counts.* Belmont, CA: Wadsworth Cengage Learning.

Baek, Y., Jung, J. & Kim, B. (2008). What makes teachers use technology in the classroom? Exploring the factors affecting facilitation of technology with a Korean Sample. *Computers and Education, 50,* (1), 224-234.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York, NY, US: W H Freeman/Times Books/ Henry Holt & Co.

Baran, E., Correia, A.P. & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education, 32,* (3), 421-439.

Barran, E. & Correia, A.P. (2014). A professional development framework for online teaching. *TechTrends, 58*, (5), 95-101.

Becker, H. S. (1970). *Sociological Work: Method and Substance.* New Brunswick: Transaction.

BERA. (2011). *Ethical Guidelines for Educational Research.* UK: Author.

Berg, B. L. (2007). *Qualitative research methods for the social sciences.* London: Pearson.

Berman, R. & Hassell, D. (2014). Digital native and digital immigrant use of scholarly network for doctoral learners. *Journal of Educators Online, 11,* (1), 1-26.

Berry, R. (2011). Assessment trends in Hong Kong: seeking to establish formative assessment in an examination culture. *Assessment in Education: Principles, policy and Practice, 18,* (2), 199-211.

Best, K. & Kahn, J. (1998). *Research in education*, (8th ed). Boston: Allyn & Bacon.

Bevis, J. C. (1949). Interviewing with tape recorders. *Public Opinion Quarterly*, *13*, 629-34.

Biesta, G., Priestley, M. & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: theory and practice, 2*1, (6), 624-640.

Bigum, C. (2002). The knowledge producing school: beyond IT for IT's sake in schools. *Professional Voice, 2*, (2). Retrieved from http://chrisbigum.com/downloads/KPS_pv.pdf.

Bird, C. M. (2005) How I stopped dreading and learned to love transcription. *Qualitative Inquiry*, 11, 226-48.

Birks, M. & Mills, J. (2011). *Grounded Theory: A practical guide.* London: Sage Publications, Inc.

Bishop, R. (2007). *The philosophy of the social sciences, an introduction.* New York, NY: Continuum International.

Bitner, N., & Bitner. J (2002). Integration technology into the classroom: eight keys to success. *Journal of Technology and Teacher Education, 10,* (1), 95-100.

Blackmore, P. & Blackwell, R. (2006) Strategic leadership in academic development. *Studies in Higher Education, 31*, (3), 373-387.

Blank, R. K. & de las Alas, N. (2009). *Effects of teacher professional development on gains in student achievement: How meta-analysis provides scientific evidence useful to education leaders.* Washington, DC: The Council of Chief State School Officers. Retrieved from http://www.ccsso.org/Documents/2009/Effects_of_Teacher_Professional_2009.pdf

Blank, R. K., de las Alas, N. & Smith, C. (2007). *Analysis of the quality of professional development programs for mathematics and science teachers: Findings from a cross-state study.* Retrieved from Council of Chief State School Officers website: http://www.ccsso.org/content/pdfs/year%202%20new%20final%20NSF%20Impde%20F all%2006%20%20Report%20-032307.pdf

Bliss, T.J. & Bliss, L.L. (2003). Attitudinal responses to teacher professional development for the effective integration of educational technology. *Journal of In-Service Education, 29*, (1), 81-99.

Blumberg, B., Cooper, D.R. & Schindler, P.S. (2011). *Business Research Methods.* London: McGraw-Hill Higher Education.

Blurton, C. (2002). *New directions of ICT use in education.* Retrieved from http://www.unesco.org/education/educprog/lwf/dl/edict.pdfs.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33,* (8), 3-15.

Bowe, J. & Gore, J. (2016). Reassembling teacher professional development: the case for quality teaching rounds. *Teacher and teaching: theory and practice, 23*, (3), 352-366.

Boyatzis, R.E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code development.* London: Sage Publications, Inc.

Braun, V. & Clarke, V. (2009). Special Issue: Coming out in higher education. *Lesbian & Gay Psychology Review, 10,* (1), 3-69.

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology, *3,* (2), 77-101.

Butcher, R., Fritz, C.E. & Quarantelli, E.L. (1956). Tape Recorded Research: Some Field and Data Processing Problems. *Public Opinion Quarterly, 20*, (2), 426-439.

Cabanatan, P. (2003). *Integrating pedagogy and technology: the SEAMEO INNOTECH experience.* Presentation to Experts Meeting on teachers/Facilitators Training in Technology-Pedagogy Integration, Bangkok, Thailand 18-20 June.

Calderhead, J. (1996). Teachers: beliefs and knowledge. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of Educational Psychology.* New York: Macmillan.

Canagarajah, S. (2015). *Translingual Practice: Global Englishes and Cosmopolitan Relations.* London/New York: Routledge.

Cardenas-Claros, M. & Oyanedel, M. (2015). Teachers' implicit theories and use of ICTs in the language classroom. *Technology, Pedagogy and Education, 25,* (2), 207-225.

Carless, D. (2011). *From Testing to Productive Student Learning: Implementing Formative Assessment in Confucian-Heritage Settings.* London: Routledge.

Carter, S. M. & Little, M. (2007). Justifying knowledge, justifying method, taking action: Epistemologies, methodologies, and methods in qualitative research. *Qualitative Health Research*, *17*, 1316-28.

Chan, Foong-Mae. (2002). *ICT in Malaysian Schools: Policy and Strategies.* Retrieved from https://www.share4dev.info/kb/documents/3513.pdf

Chapelle, C. A. (2012). Computer assisted language teaching and testing. In M. Long and C. Doughty, (Eds), *Handbook of second and foreign language teaching.* Malden, MA: Blackwell Publishing.

Chen, S.M., & Chang, Y.L. (2004). Beliefs and practices of kindergarten teachers. *Journal of Pingtung Teachers College*, 21, 1-35.

Chiu T.K.F. & Daniel Churchill, D. (2016). Adoption of mobile devices in teaching: changes in teacher beliefs, attitudes and anxiety, *Interactive Learning Environments, 24*, (2), 317-327.

Clarke, V. & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist, 26*, (2), 120-123.

Clark V. & Braun, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* (2), 77-101.

Coggin, W. O. & B. F. Coggin. (2001). So you Want to Work in China? *Technical Communication, 48*, (4), 389-398.

Cohen, L., Manion, L. & Morrison, K. (2011). *Research Methods in Education* (7th ed.). New York: Routledge.

Coldwell, M. (2017/2016). Exploring the influence of professional development on teacher careers: A path model approach. *Teaching and Teacher Education, 61*, (1), 189-198.

Coldwell, M. (2017). Exploring the influence of professional development on teacher careers: A path model approach. *Teaching and Teacher Education, 61*,189–198.

Comas-Quinn, A. (2011). Learning to teach online or learning to become an online teacher: an ex-ploration of teachers' experiences in a blended learning course. *ReCALL, 23*, (3), 218–232.

Cradler, J., McNabb, M., Freeman, M. & Burchett, R. (2002). How does technology influence student learning? *Learning and Leading with Technology, 29*, (8), 46-49.

Crandall, J. & Christison, M.A. (2016). *Teacher Education and Professional Development in TESOL: Global Perspectives*. New York: Routledge.

Crandall, J.A. (2000). Language teacher education. *Annual Review of Applied Linguistics, 20*, 34-55.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (Eds), *Handbook on mixed methods in the behavioral and social sciences* (pp. 209-240). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W. (2014). *Research Design Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Cronbach, L.J. & Suppes, P. (1969). *Research for tomorrow's schools: Disciplined inquiry for education.* New York: MacMillan.

Cubeles, A. & Riu, D. (2018). The effective integration of ICTs in universities: the role of knowledge and academic experience of professors. Technology, Pedagogy and Education.

Curwood, J.S. (2014). English Teachers' Cultural Models About Technology. *Journal of Literacy Research, 46*, (1), 9-38.

Czerniawski, G., Guberem, A. & MacPhail, A. (2017). The professional development needs of higher education-based teacher educators: an international comparative needs analysis. *European Journal of Teacher Education, 40,* (1), 127-140.

Darling-Hammond, L., Hyler, M.E. & Gardner, M. (2017). *Effective Teacher Professional Development.* Paolo Alto, CA: Learning Policy Institute.

Davis, F., Bagozzi, R. & Warshaw, R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35*, (8), 982-1003.

Davies, G., Otto, S. E. & Ruschoff, B. (2014). Historical perspectives on CALL. In M. Thomas., H. Reinders. & Warschauer, M. *Contemporary computer-assisted language learning* (pp. 19-34). London: Bloomsbury Academic.

Davison, C. (2005). Information technology and innovation in language education. In Davison, C. (Ed), *Information Technology and Innovation in Language Education.* Hong Kong. China: Hong Kong University Press.

Day, C, Stobart, G, Sammons, P, Kington, A, Gu, Q, Smees, R & Kujtaba, T (2006). *Variations in Teachers' Work, Lives and Effectiveness. Research Report RR743.* London: Department of Education and Skills.

Day, C. & Sachs, J. (2004). Professionalism, Performativity and Empowerment: Discourses in the Politics, Policies and Purposes of Continuing Professional Development. In C. Day, & J. Sachs (Eds.), *International Handbook on the Continuing Professional Development of Teachers* (pp. 3-32). Maidenhead: Open University Press.

De Laat, M. & Schreurs, B. (2013). Visualizing informal professional development networks: Building a case for learning analytics in the workplace. *American Behavioral Scientist, 57*, (10), 1421–1438.

Dede, Chris; Ketelhut, Diane Jass; Whitehouse, Pamela; Breit, Lisa; McCloskey, Erin M. A. (2009). Research Agenda for Online Teacher Professional Development *Journal of Teacher Education*, *60,* (1), 8-19.

Denscombe, M. (2008). Communities of practice. *Journal of Mixed Methods Research, 2*, (3), 270-283.

Denzin & Y. S. Lincoln. (2005). *Handbook of Qualitative Research.* London: Sage Publications, Inc.

Desimone, L. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38,* (3), 181-199.

Desimone, L.M. & Garet, M.S. (2015). Best Practices in Teachers' Professional Development in the United States. *Psychology, Society, & Education, 7,* (3), 252-263.

De Vos, A.S., Strydom, H, Schulze, S. & Patel, L. (2011). The sciences and the profession. In De Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. *Research at the grass roots for the social sciences and human service professions* (4th). Pretoria: JL Van Schaik Publishers.

De Vries, S., van de Grift, W., & Jansen, E. (2014). How teachers' beliefs about learning and teaching relate to their continuing professional development. *Teachers and Teaching: Theory and Practice, 20, (*3), 338-357.

De Weaver, B., Vanderlinde, R., Tuytens, M. & Aelterman, A. (2016). *Professional Learning in Education: Challenges for teacher educators, teachers and student teachers*. Gent: Academia Press.

Dickson-Swift, V., James, E. L., Kippen, S. & Liamputtong, P. (2007). Doing sensitive research: What challenges do qualitative researchers face? *Qualitative Research, 7,* (3), 327-353.

Dicicco-Bloom, B. and Crabtree, B.F. (2006) The Qualitative Research Interview. *Medical Education, 40,* 314-321.

Diener, E. & Crandall, R. (1978). *Ethics in social and behavioral research*. Oxford, England: U Chicago Press.

Drexler, W., Baralt, A. & Dawson, K. (2008). The Teach Web 2.0 Consortium: A tool to promote educational social networking and Web 2.0 use among educators. *Educational Media International, 45*, (4), 271-283.

Dysart, S. & Weckerly, C. (2015). Professional Development in Higher Education: A Model for Meaningful Technology Integration. *Journal of Information Technology Education: Innovations in Practice, 14*, 255-265.

Dörnyei, Z. (2015). *Research Methods in Applied Linguistics*. Oxford: Oxford University Press.

Eaton, S.E., Wagner, S., Hirashiki, J. & Ciancio, J. (2018). *Understanding and Exploring Signature Pedagogies for TESOL Teacher Education.* Calgary: University of Calgary.

Educational Development Centre, EDC. (2018). Retrieved from
https://edc.polyu.edu.hk/

Egbert, J. & Borysenko, N. (2018). Teacher Preparation for Using Technology. The
TESOL Encyclopedia of English Language Teaching. Retrieved from
https://onlinelibrary.wiley.com/doi/10.1002/9781118784235.eelt0432

Ehman, l. & Bonk, C. (2002). *A model of teacher professional development to support
technology integration*. Paper presented at the annual meeting of the American
Educational Research Association. New Orleans. LA.

Eib, B. J. & Cox, S. (2003). Integrating technology with teacher inquiry. *Principal
Leadership (High School Ed.), 3*, 54-58.

Eickelmann, B. & Venneman, M. (2017). Teachers' attitudes and beliefs regarding ICT
in teaching and learning in European countries. *European Research Journal, 16*,
(6), 733-761.

Ely, M., Anzul, M., Friedman, T., Garner, D. & Steinmetz, A. (1991). *Doing Qualitative
Research: Circles within Circles*. London: Falmer.

Englund, T. (1996). Are professional teachers a good thing? In I. Goodson and A.
Hargreaves (Eds) *Teachers' Professional Lives.* London: Falmer.

Englund, Olofsson, A.D. & Price, L. (2017). Teaching with technology in higher
education: understanding conceptual change and development in practice.
Higher Education Research & development, 36, (1), 73-87.

Eraut, M. (2004). The practice of reflection. *Learning in Health and Social Care, 3*, (2)
47-52.

Eraut, M. (2011). Informal learning in the workplace: evidence on the real value of
work-based learning (WBL). *Development and Learning in Organizations: An
International Journal, 25*, (5), pp.8-12.

Eraut, M. (2007). Learning from Other People in the Workplace. *Oxford Review of
Education, 33,* 403-422.

Erstad O., Voogt J. (2018). The Twenty-First Century Curriculum: Issues and
Challenges. In Voogt J., Knezek G., Christensen R., Lai KW. (eds) *Handbook
of Information Technology in Primary and Secondary Education*. Springer
International Handbooks of Education. Singapore: Springer.

Ertmer, P.A. & Ottenbreit-Leftwich, A. (2010). Teacher Technology Change: How
Knowledge, Confidence, Beliefs, and Culture Intersect. *Journal of Research on
Technology in Education, 42,* (3), 255-284.

Ertmer, P. A. (2005). Teacher Pedagogical Beliefs: The Final Frontier in Our Quest for Technology Integration. *Educational Technology Research and Development, 53,* (4), 25-40.

Ertmer, P.A. & Ottenbreit-Leftwich, A. (2013). Removing obstacles to the pedagogical change required by Jonassen's vision of authentic technology-enabled learning. *Computers & Education, 64,* 175-182,

Ertmer, P., Ottenbreit-Leftwich, T., Sadik, O., Sendurur, E. & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59, (2)*, 423-435.

Ertmer, P.A., Ottenbreit-Leftwich, A. & Tondeur, J. (2015). Teacher beliefs and uses of technology to support 21st century teaching and learning. In H.R. Fives, & M. Gill (Eds.), International Handbook of Research on Teacher Beliefs (pp. 403-418). New York: Routledge – Taylor & Francis.

Evans, L. (2018). Implicit and informal professional development: what it 'looks like', how it occurs, and why we need to research it. *Professional Development in Education (Published online)*. Retrieved from https://www.tandfonline.com/doi/abs/10.1080/19415257.2018.1441172

Evans, L. (2011). The "shape" of teacher professionalism in England: professional standards, performance management, professional development and the changes proposes in the 2010 white paper. British educational research journal, 37, (5), 851-870.

Evans, R. (1996). *The human side of school change: Reform, resistance, and the real-life problems of innovation*. San Francisco: Jossey-Bass Publishers.

Farr, F. (Ed.), Murray, L. (Ed.). (2016). *The Routledge Handbook of Language Learning and Technology*. London: Routledge.

Fidell, L. S. & Tabachnick, B. G. (2003). Preparatory data analysis. In J. A. Schinka & W. F. Velicer (Eds.), *Handbook of psychology: Research methods in psychology,* Vol. 2, (115-141). Hoboken: John Wiley & Sons Inc.

Field, A. (2013). *Discovering Statistics using IBM SPSS Statistics.* New York: Sage Publications, Inc.

Fisher, T., Higgins, C. & Loveless, A. (2006). *Teachers Learning with Digital Technologies: A Review of Research and Projects.* Bristol: Futurelab.

Fives, H. & Gill, G. M. (2014). International Handbook of Research on Teachers' Beliefs. *Teachers' Beliefs and Uses of Technology to support 21st-century Teaching and Learning*. Ertmer, P.A. Ottenbreit-Leftwich, A. & Tondeur, J. (403-418).

Fives, H., & Buehl, M. M. (2012). Spring cleaning for the "messy" construct of teachers' beliefs: What are they? Which have been examined? What can they tell us? In K. R. Harris, S. Graham, T. Urdan, S. Graham, J. M. Royer, & M. Zeidner (Eds.), *APA handbooks in psychology. APA educational psychology handbook, Vol. 2. Individual differences and cultural and contextual factors* (pp. 471-499). Washington, DC, US: American Psychological Association.

Florida Department of Education, (2006). *Technology Integration Matrix*. Retrieved from https://fcit.usf.edu/matrix/.

Frankfort-Nachmias, C. & Nachmias, D. (1992). *Research Methods in the Social Science.* New York: St. Martin's Press.

Freeman, D. & Johnson, K.E. (1998). Reconceptualizing the knowledge-base of language teacher education. *TESOL Quarterly, 32*, (3), 397-417.

Freeman, D. (2016). *Educating Second Language Teachers*. Oxford: Oxford University Press.

Fullan. M. (1991). *The New Meaning of Educational Change*. New York, NY: Teachers' College Press.

Gall, M. D., Renchler, R. S. et al. (1985). *Effective staff development for teachers: A research-based model*. College of Education, University of Oregon.

Gallagher, C.E. & Haan, J.E. (2018). University Faculty Beliefs About Emergent Multilinguals and Linguistically Responsive Instruction. *TESOL Quarterly, 52,* (2), 304-330.

Garmston, R. (1991). Staff developers as social architects. *Educational Leadership, 49,* (3), 64-5.

Garet, M.S., Porter, A. C., Desimone, L., Birman., B. & Yoon, K.S. (2001). What Makes Professional Development Effective? Results from National Sample of Teachers. *American Educational Research Journal, 38,* (4), 915-945.

Geertz, C. (1973). *The Interpretation of Cultures: Selected Essays*. New York: Basic Books.

Gerbic, P. (2011). Teaching using a blended approach – what does the literature tell us? *Educational Media International, 48,* (3), 221–234.

Gibbs, G. (2007). *Analysing Qualitative Data*. New York: Sage Publications, Inc.

Gibson, W. & Brown, A. (2009). *Working with Qualitative Data*. New York: Sage Publications, Inc.

Given, L.M. (2008). *The Sage encyclopedia of qualitative research methods*. Los Angeles: Sage Publications.

Goodall, J, Day, C, Lindsay, G, Muijs, D. & Harris, A. (2005). *Evaluating the Impact of Continuing Professional Development.* Research Report RR659, Department for Education and Skills, University of Warwick.

Gorksi, C. & Clark, P. (2002). Multicultural Education and the Digital Divide: Focus on Socioeconomic Class Background. *Multilingual Perspectives, 4,* (3), 25-36.

Graham, C. R., Tripp, T. & Wentworth, N. (2009). Assessing and improving technology integration skills for pre-service teachers using the teacher work sample. *Journal of Educational Computing Research, 41,* (1), 39–62.

Greene, J. & Caracelli, V. (2003). Making Paradigmatic Sense of Mixed Methods Inquiry, in *Handbook of Mixed Methods in Social & Behavioral Research*, Tashakkori, A & Teddlie, C. (Eds) 2003, Los Angeles: Sage Publications, Inc.

Grosemans, I., Boon, A., Verclairen, C. Dochy, F. & Kyndt, E. (2015). Informal learning of primary school teachers: Considering the role of teaching experience and school culture. *Teaching and Teacher Education, 47*, 151-161.

Guba, E. (1990). *The Paradigm Dialog*. Newbury Park: Sage Publications, Inc.

Guba, E. G. & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park: Sage Publications, Inc.

Guba, E. G. & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). London: Sage Publications, Inc.

Guskey, T.R. (2000). *Evaluating Professional Development*. Thousand Oaks: Corwin Press.

Guskey, T.R. (2002). Professional development and teacher change. *Teachers and teaching: theory into practice, 8,* (3), 381-391.

Guskey, T. R. (2014). Planning Professional Learning. *Educational, School, and Counseling Psychology Faculty Publications, 15*. https://uknowledge.uky.edu/edp_facpub/15

Hadjistavropoulos, T. & Smythe, W. E. (2001). Elements of risk in qualitative research. *Ethics & Behavior*, *11*, (2), 163-74.

Halcomb, E. J. & Davidson, P. M. (2006). Is verbatim transcription of interview data always necessary? *Applied Nursing Research*, *19*, (1), 38-42.

Ham, V. (2010). *Technology as Trojan horse. In Researching IT in Education: Theory, Practice, and Future Directions*, edited by A. McDougall, J. Murnane, A. Jones, and N. Reynolds, pp. 25–38. New York, NY: Routledge.

Hamilton, M.L. (2012). Foreword: Creating openings to ponder interpretation, inconclusively, and the geography of the narrative. In E. Chan, D. Keyes, &V. Ross (Eds.), *Narrative inquirers in the midst of meaning-making: interpretive acts of teacher educators*. (pp. xi-xv) Bingley, UK: Emerald Group Publishing Ltd.

Han, K.H. (2016). The feeling of "face" in Confucian society: From a perspective of psychological equilibrium. *Frontiers in Psychology, 7*, 1055.

Han K. H., Li M. C. (2008). Strangers are better than the familiar ones: the effect of 'face-threatening" on Taiwanese choice of helper. *Chinese Journal of Psychology,* 50, 31–48.

Harre, R. & Tissaw, M.A. (2005). *Wittgenstein and psychology: A practical guide*. Aldershot: Ashgate Publishing.

Harris, J., Mishra, P. & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration refrained. *Journal of Research on Technology in Education*, *41,* (4), 393-416.

Hanson W.E., Creswell J.W., Plano Clark V.L., Petska K.S. & Creswell J.D. (2005) Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology, 52* (2), 224–235.

Healey, D. (2011). TESOL Technology Standards, 2011. Retrieved from https://pages.uoregon.edu/dhealey/uruguay2011/healey-tesol_technology_standards-pad.pdf

Healey, D. (2018). Technology Enhanced Learning Environments. *The TESOL Encyclopedia of English Language Teaching*. Retrieved from https://onlinelibrary.wiley.com/doi/10.1002/9781118784235.eelt0437

Heisey, D.R. (2011). International perspectives on cultural identify. *The Review of Communication, 11,* (1), 66-82.

Hendersen, M., Selwyn, N. & Aston, R. (2017). What works and why? Student perception of "useful" digital technology in university teaching and learning. *Studies in Higher Education, 42*, (8), 1567-1579.

Hermans, R., Tondeur, J., van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & Education, 51,* (4), 1499–1509.

Hew, K. F., & Brush, T. (2007). Integrating technology into K–12 teaching and learning: Current knowledge gaps and recommendations for future research. *Educational Technology Research and Development, 55*, (3), 223–252.

Hewitt, J. (2007). Ethical components of researcher-researched relationships in qualitative interviewing. *Qualitative Health Research*, *17*, (8), 1149-59.

Higgins, S., Xiao, Z., Katsipataki, M. (2012). The Impact of Digital Technology on Learning: A Summary for the Education Endowment Foundation. London: Education Endowment Foundation.

Higgins, S. (2016). 'New (and old) technologies for learning : innovation and educational growth.', in *Psicología y educación : presente y futuro.* Alicante: Asociación Científica de Psicología y Educación (ACIPE), pp. 45-52.

Hinostroza, J.E., Ibieta, A.I., Claro, M. & Labbe, C. (2016). Characterisation of teachers' use of computers and Internet inside and outside of the classroom: The need to focus on the quality. *Education and Information Technologies, 21*, (6), 1595-1610.

Howard, B., McGee, S., Schwartz, S. N. & Purcell, S. (2000). The Experience of Constructivism: Transforming Teacher Epistemology. *Journal of Research on Computing in Education, 32,* (4), 455-465.

Howard, S.K., Chan, A. & Caputi, P. (2015). More than beliefs: subject areas and teachers' integration of laptops in secondary teaching. *British Journal of Educational Technology, 46*, (2), 360-369.

Howe, K. & Moses, M. (1999). Ethics in educational research. *Review of Research in Education, 24*, 21-60.

Hsu, P. (2016). Examining current beliefs, practices and barriers about technology integration: A case study. *TechTrends: Linking Research & Practice to Improve Learning, 60*, (1), 30-40.

Hu, Z. & McGrath, I. (2011). Innovation in higher education in China: Are teachers ready to integrate ICT in English language teaching? *Technology, Pedagogy and Education, 20,* (1), 41-59.

Hubbard, P. (2018). Technology and Professional Development. *The TESOL Encyclopedia of English Language Teaching*. Retrieved from https://onlinelibrary.wiley.com/doi/full/10.1002/9781118784235.eelt0426.

Hue, M. T. (2005). The influences of Chinese culture on teacher-student interaction in the classrooms of Hong Kong secondary schools. *Australian Curriculum Studies Association*, *25,* (3), 37-43.

Hur J. W., Shannon, D. & Wolf, S. (2016). An Investigation of Relationships Between Internal and External Factors Affecting Technology Integration in Classrooms, *Journal of Digital Learning in Teacher Education, 32*, (3), 105-114.

Hutchinson, S. & Wilson, S. K. (1992). Validity threats in scheduled semi-structured research interviews. *Nursing Research, 41*, (1), 117-119.

Hyland, K. & Wong, L.C. (2013). *Innovation and Change in English Language Education*. New York: Routledge.

Hyrkstedt, I. & P. Kalaja (1998). Attitudes towards English and its function s: a discourse-analytic study. *World Englishes, 17*, (3), 345–357.

Hwang, K.K. (2007). Moral face and social face: Contingent self-esteem in Confucian society. *International Journal of Psychology, 4,* (4), 276-281.

Ibieta, A., Hinostroza, J.E., Labbe, C. & Claro, M. (2015). The role of the Internet in teachers' professional practice: activities and factors associated with teacher use of ICT inside and outside the classroom. *Technology, Pedagogy and Education, 26*, (4), 425-438.

Internal Staff Handbook, (2012). Retrieved from Intranet.

Ivankova, N.V., Creswell, J.W., & Stick, S.L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods, 18,* (1). 3-20.

Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical Education, 38*, (12), 1217-1218.

Janesick, V. J. (1994). The dance of qualitative research design: Metaphor, methodolatry, and meaning. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 209-219). Thousand Oaks, CA: Sage Publications, Inc.

Jääskelä, P., Häkkinen P. & Rasku-Puttonen, H. (2017). Teacher Belief Regarding Learning, Pedaggoy, and the use of Technology in Higher Education. *Journal of Research on Technology in Education, 49,* (3-4), 198-211.

Kalman, J. & Guerrero, E. (2013). A Social Practice Approach to Understanding Teachers' Learning to Use Technology and Digital Literacies in the Classroom. *E-Learning and Digital Media, 10,* (3), 260-275.

Karagiorgi, Y. & Charalambous, K. (2006). ICT in-service training and school practices: in search for the impact. *Journal of Education for Teaching, 32,* (4), 395 411.

Kennedy, M.M. (2016). How Does Professional Development Improve Teaching? *Review of Educational Research, 86*, (4), 945-980.

Kessler, G. & Hubbard, P. (2018). Language Teacher Education and Technology. In C.A. Chapelle and S. Sauro (Eds). *Handbook of Technology and Second Language Teaching and Learning*, ch. 19. Retrieved on Feb 16 from https://onlinelibrary.wiley.com/doi/10.1002/9781118914069.ch19

Kessler, G. (2016). Technology in second language teaching and learning. In E. Hinkel (Ed) *Handbook of Research in Second Language Teaching and Learning*, 3, Routledge.

Kessler, G. (2018). Technology and the future of language teaching. *Foreign Language Annals, 51,* (1), 205-218.

Kim, C., Kim, M. K., Lee, C., Spector, J. M. & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education, 29*, 76–85

Kinash, S. & Wood, K. (2013). Academic developer identity: How we know who we are. *International Journal for Academic Development, 18,* (2), 178-189.

King, F. (2016). Teacher professional development to support teacher professional learning: Systemic Factors from Irish case studies. *Teacher Development, 20,* (4), 574-594.

Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks: Corwin Press.

Knight, P. (2002). A systematic approach to professional development: learning as practice. *Teaching and Teacher Education, 18*, (2), 229-241.

Knobel, M. & Kalman, J. (2016). *New Literacies and teacher Learning: Professional Development and the Digital Turn*. New York: Peter Lang Publishing, Inc.

Koh, J.W.L., Chai, S.C. & Lim, W.Y. (2016). Teacher Professional Development for TPACK-21CL, Effects on Teacher ICT Integration and Student Outcomes. *Journal of Educational Computing Research, 55,* (2), 172-196.

Kong, S.C. (2014). Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy. *Computers & Education*, *78*, 160-173.

Korthagen, F. A. J. (2014). Promoting core reflection in teacher education: Deepening professional growth. In: L. Orland-Barak & C. J. Craig (Eds), *International Teacher Education: Promising pedagogies* (Part A), (pp. 73-89). Bingley, UK: Emerald.

Korthagen, F. (2017). Inconvenient truths about teacher learning: towards professional development 3.0. *Teachers and Teaching, 23*, (4), 387-405.

Kozma, R. B., & Vota, W. S. (2014). ICT in developing countries: Policies, implementation, and impact. In J. M. Spector (Ed.), *Handbook of research on educational communications and technology* (pp. 885–894). New York: Springer.

Kozma, R.B. (2003). Technology and Classroom Practice. *Journal of Research on Technology in Education, 36,* (1), 1-14.

Krosnick, J.A. (2018). *Questionnaire design. The Palgrave Handbook of Survey Research*. Cham: Palgrave Macmillan.

Krueger, R.A. & Casey, M.A. (2015). *Focus Groups: A Practical Guide for Applied Research*. New York: Sage Publications, Inc.

Kusano, K., Frederiksen, S., Jones, L., Kobayashi, M, Mukoyama, Y, Yamagishi, T, Sadaki, K. & Ishizuka, H. (2013). The Effects of ICT environment on Teachers' Attitudes and Technology Integration in Japan and the U.S. *Journal of Information Technology Education: Innovations in Practice, 12*, 29-43.

Kumar, R. (2011). *Research Methodology: A Step-by-Step Guide for Beginners*. 3rd Edition. New Delhi: Sage Publications ltd.

Kvale, S. (2007). *Doing Interviews*. Thousand Oaks: Sage Publications, Inc.

Kyndt, E., Gijbels, D., Grosemans, I. & Donche, V. (2016) Teachers' Everyday Professional Development: Mapping Informal Learning Activities, Antecedents, and Learning Outcomes. *Review of Educational Research, 86*, (1), 1111-1150.

Lai, A. & Maclean, R. (2014). Managing human capital in world cities: Reflections on Hong Kong developing into an education hub. In K. H. Mok, & K. M. Yu (Eds.), *Internationalization of higher education in East Asia: Trends of student mobility and impact on education governance* (pp. 42-57). New York: Routledge.

Lam, Y. (2000). Technophobia or technophilia? A preliminary look at why second language teachers do or do not use technology in their classrooms. *Canadian Modern Language Review, 56*, (93), 389-420.

Lankshear, C. & Bigum, C. (1999). Literacies and new technologies in school settings. *Pedagogy, Culture & Society, 7*, (3), 445-465

Lapadat, J. C. & Lindsay, A. C. (1999). Transcription in research and practice: From standardization of technique to interpretive positionings. *Qualitative Inquiry, 5*, (1), 64-86.

Larkin, M., Watts, S. & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative Research in Psychology, 3*, (2), 102-120.

Laurillard, D. (2016). The educational problem that MOOCs could solve: professional development for teachers of disadvantaged students. *Research in Learning Technology*, 24

Law, W. W. (2003). Globalization as both Threat and Opportunity for the Hong Kong Teaching Profession. *Journal of Educational Change*, 4, (2), 149-179.

Lawless, K.A. & Pellegrino, J.W. (2007). Professional development in integrating technology into teaching and learning: knows, unknowns, and ways to pursue better questions and answers. *Review of educational research, 7,* (4), 575-614.

Lawrence, G. (2018). *The Role of Language Teacher Beliefs in an Increasingly Digitalized Communicative World*. Handbook of Research on Integrating Technology into Contemporary Language Learning and Teaching. Hershey, PA: IGI Global.

Leask, M. & Younie, S. (2013). National models for continuing professional development: the challenges of twenty-first-century knowledge management. *Professional Development in Education, 39,* (2), 273-287.

Leedy, P. D. & Ormrod, J. E. (2010). *Practical research: Planning and design* (9th ed.). Upper Saddle River: Prentice Hall.

Legislative Council. (2014). *Report of the Task Force on ICT Professional Development and Recognition.* Retrieved from http://www.ogcio.gov.hk/en/news_and_publications/publications/doc/PDTF_Repo rt.pdf

Li, Q. & Ni, Y. (2011). Impact of curriculum reform: Evidence of change in classroom practice in mainland China. *International Journal of Educational Research, 50*, (2), 71-86.

Li, L. (2014). Understanding language teachers' practice with educational technology: A case from China. *System, 46*, (1), 105-119.

Li, L. (2017). *New Technologies and Language Learning*. London: Palgrave.

Li, L., Worch, E., Zhou, Y.C. & Aguiton, R. (2015). How and Why Digital Generation Teachers Use Technology in the Classroom: An Explanatory Sequential Mixed Methods Study, *International Journal for the Scholarship of Teaching and Learning*, *9*, (2), Article 9.

Liao, Y.C., Ottenbreit-Leftwich, A., Karlin, M., Glazewski, K. & Brush, T. (2017). Supporting Change in Teacher Practice: Examining Shifts of Teachers' Professional Development Preferences and Needs for Technology Integration. *Contemporary Issues in Technology and Teacher Education, 17,* (4), 522-548.

Lim, C. P., Zhao, Y., Tondeur, J., Chai, C.-S. & Tsai, C.-C. (2013). Bridging the gap: Technology trends and use of technology in schools. *Educational Technology & Society,16,* (2), 59–68.

Ling, L.M. & Mackenzie, N. (2015). An Australian perspective on teacher professional development in supercomplex times, *Psychology, society, and education, 7*, (3), 264-278.

Littlewood, W. (2004). The task-based approach: Some questions and suggestions. *ELT Journal, 58*, (4), 319–326.

Liu, J. & Berger, C. (2015). *TESOL: A Guide*. London & New York: Bloomsbury Academic.

Livingstone, S. (2012). Critical reflections on the benefits of ICT in education*. Oxford Review of Education, 38*, (1), 9-24.

Loh, C.Y.R. & Teo, T.C. (2017). Understanding Asian Students Learning Styles, Cultural Influence and Learning Strategies. *Journal of Education & Social Policy, 7*, (1), 194-210.

Loveless, A. & Williamson, B. (2013). *Learning Identities in a Digital Age: Rethinking Creativity, Education and Technology.* London: Routledge.

Loveless, A. (2003). Making a Difference? An Evaluation of Professional Knowledge and Pedagogy in Art and ICT. *Journal of Art & Design Education*, *22*, (2), 145-154.

Lowther, D., Inan, F., Strahl, J. & Ross, S. (2008). Does technology integration "work"

when key barriers are removed. *Educational Media International, 45,* (3), 195-313.

Mak, B. (2010). The professional development needs of Hong Kong ESL teachers. *Asia Pacific Educational Review*, *11,* (3), 397-410.

Marcia, M. & Garcia, I. (2016). Informal online communities and networks as a source of teacher professional development: A review. *Teaching and Teacher Education, 55*, 291-307.

Makki, T., O'Newl, L.J. Cotton, S.R. & Rikard, R.V. (2018). When first-order barriers are high: A comparison of second- and third-order barriers to classroom computing integration. *Computers & Education, 120*, (1), 90-97.

Marshall H. (1996). Implications of Differentiating and Understanding Constructivist Approaches, *Journal of Educational Psychology, 31*, (1), 235-240.

Martin, L.E., Kragler, S., Quatroche, D.J. & Bauserman, K.L. (2014). *Handbook of Professional Development in Education: successful models and practices, PreK-12*. New York: The Guilford Press.

McAuley, J., Duberley, J. & Johnson, P. (2007). *Organization Theory: Challenges and Perspectives*. Harlow: Prentice Hall.

McChesney, K. & Aldridge, J.M. (2018). *A review of practitioner-led evaluation of teacher professional development, Professional Development in Education*. Retrieved from https://www.tandfonline.com/doi/full/10.1080/19415257.2018.1452782

Mead, G. H. (1934). *Mind, self & society from the standpoint of a social behaviorist* (Edited by C. W. Morris). Chicago: University of Chicago Press.

Megginson, D. & Whitaker, V. (2017). *Continuing Professional Development*. (2nd Edition). Chartered Institute of Personnel and Development: London.

Merriam, S.B. & Grenier, R.S. (2019). *Qualitative Research in Practice: Examples for Discussion and Analysis*. San Francisco, USA: Jossey-Bass, Inc.

Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis* (2nd edition). Thousand Oaks: Sage Publications, Inc.

Mishra, P. & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teacher College Record, 108*, (6), 1017-1054.

Mok, K.H. & Chan, S.J. (2016). After Massification and Response to Internationalization: Quality Assurance of Higher Education in Taiwan and Hong Kong. In Collins, C.,

Lee, M.N.N., & Neubauer, D., (eds.) *The Palgrave Handbook of Asian Higher Education* (pp. 423-438), New York: Palgrave Macmillan.

Morehouse, R.E. (2012). *Beginning Interpretive Inquiry: A step-by-Step Approach to Research and Education*. London: Routledge.

Morris, P. (2008). *Teacher professionalism and Teacher Education in Hong Kong*. Retrieved from http://link.springer.com/chapter/10.1007%2F978-1-4020-8186-6_8.

Morris, N. (2012). *Learning and teaching with emerging technologies: Preservice pedagogy and classroom realities*. Electronic Thesis and Dissertations.

Morrison, B. & Evans, S. (2016). University students' conceptions of the good teacher: A Hong Kong perspective. *Journal of Further and Higher Education, 42*, (3), 352-365.

Muijs, D. & Reynolds, D. (2018). *Effective Teaching, Evidence and Practice* (4th edition). Los Angeles: Sage Publications Inc.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies, 19,* (4), 317-328.

Neuman, W.L. (2011). *Basics of Social Research: Qualitative and Quantitative Approaches*. University of Wisconsin-Whitewater: Pearson Education, Inc.

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in Health Science Education, 15*, (5), 625-632.

Nunan, D. & Bailey, K.M. (2009). *Exploring second language classroom research: a comprehensive guide*. Boston: Heinle, Cengage Learning.

Opfer, V.D. & Pedder, D. (2011). Conceptualizing Teacher Professional Learning. *Review of Educational Research, 81*, (3), 376-407.

Opfer, V.D. (2016). *Conditions associated with teacher professional development and its impact on instruction in TALIS 2013*. Paris: OECD.

Oppenheim, A. (1992). *Questionnaire Design: Interviewing and Attitude Measurement*. London: Pinter.

Orlando, J. & Attard, C. (2016). Digital natives come of age: the reality of today's early career teachers using mobile devices to teach mathematics. *Mathematics Education Research Journal, 28*, (1), 107-121.

O'Rourke, M. (2001). Engaging students through ICT: a multiliteracies approach. *Teacher Learning Network Journal: Change, Growth, Innovation, 8*, (3), 12-13.

Palinkas, L.A., Green, C.A., Wisdom, J.P. & Eaton-Hoagwood, K. (2013). *Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research*. Research Gate.

Partnership for 21st Century Skills. (2007). *Beyond the Three Rs: Voter Attitudes Toward 21st Century Skills.* Tucson: Author.

Partnership for 21st Century Skills. (2002). *Our mission*. Tucson: Author.

Parker, M. & Patton, K. (2017). What research tells us about effective continuing professional development for physical education teachers, in Ennis, C.D. (Ed.), Routledge Handbook of Physical Education Pedagogies, Taylor and Francis, New York, NY, pp. 447-460.

Patrick, F., Elliot, D., Hulme, M. & McPhee, A. (2010). The importance of collegiality and reciprocal learning in the professional development of beginning teachers. *Journal of Education for Teaching: International Research and Pedagogy*, *36,* 277–289.

Patton, M.Q. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park: Sage Publications, Inc.

Patton MQ. (2002). *Qualitative research and evaluation methods*. Thousand Oaks: Sage Publications, Inc.

Patton, K., Parker, M. & Tannehill, D. (2015). Helping Teachers Help Themselves, Professional Development That Makes a Difference. *NASSP Bulletin, 99*, (1), 26-42.

Pinner, R.S. (2019). *Stepping Back: Analysis and Discussion of ICT and Language Change.* In: Augmented Communication. Cham: Palgrave Pivot.

Polly, D., Mims, C., Shepherd, C. E. & Inan, F. (2010). Evidence of impact: Transforming teacher education with preparing tomorrow's teachers to teach with technology (PT3) grants. *Teaching and Teacher Education, 26*, (4), 863-870.

Prestridge, S. (2012). The beliefs behind the teacher that influences their ICT practices. *Computers & Education,* 58, (1), 449-458.

Prestridge, S. (2014). Reflective Blogging as part of ICT Professional Development to Support Pedagogical Change. *Australian Journal of Teacher Education, 39,* (2), 70-86.

Prestridge, S. (2017). Examining the shaping of teachers' pedagogical orientation for the use of technology. *Technology, Pedagogy and Education, 26*, (4), 367-381.

Prestridge, S. & Tondeur, J. (2015). Exploring Elements That Supports Teachers Engagement in Online Professional Development. *Education Science, 5*, (3), 119-219.

Puentedura, R. P. (2006). Transformation, Technology, and Education. Retrieved from: http://hippasus.com/resources/tte/

Putnam, R. T. & Borko, H. (2000). What Do New Views of Knowledge and Thinking Have to Say about Research on Teacher Learning. *Educational Researcher, 29*, (1), 4-15.

Purkey, W.W. (1988): An *overview of self-concept theory for counselors*. Ann Arbor, Michigan: ERIC Clearinghouse on counseling and personnel services.

Ra. S., Chin, B. & Lim, C. P. (2016). A holistic approach towards information and communication technology (ICT) for addressing education challenges in Asia and the Pacific. *Educational Media International, 53*, (2), 69-84.

Reicher, S. & Taylor, S. (2005). Similarities and differences between traditions. *The Psychologist, 18,* (9), 547-549.

Richards, K. (2003). *Qualitative inquiry in TESOL*. Hampshire: Palgrave Macmillan.

Rienties, B., Brouwer, N., & Lygo-Baker, S. (2013). The effects of online professional development on higher education teachers' beliefs and intentions towards learning, facilitation and technology. *Teaching and teacher education, 29*, (1), 122-131.

Rijst, R., Baggen, Y. & Sjoer, E. (2018). University teachers' learning path during technological innovation in education. *International Journal for Academic Development*, 2017.

Robinson, O.C. (2014). Sampling in interview-based qualitative research: a theoretical and practical guide. *Qualitative Research in Psychology, 11*, (1), 25-41.

Roblyer, M.D. & Doering, A.H. (2010). *Integrating Education Technology into Teaching*. Pearson.

Robson, C. (2012). *Real World Research: A Resource for Social Scientists and Practitioner Researchers.* Oxford: Blackwell.

Rossman, G. B. & Wilson, B. L. (1985). Numbers and words: Combing quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review, 9,* (5), 627–643.

Rothgeb, M.K. (2008). Creating a Nursing Simulation Laboratory: A Literature Review. *Journal of Nursing Education, 47,* (11), 489-94.

Rubin, H.J. & Rubin, I.S. (2005). *Qualitative Interviewing (2nd Ed): The Art of Hearing Data*. Sage.

Rubin, H.J. & Rubin, I.S (2012). *Qualitative Interviewing: The Art of Hearing Data.* London: Sage Publications, Inc.

Ryan, T. & Bagley, G. (2015). Nurturing the integration of technology in education. *Journal of Theory and Practice in Education, 11*, (1), 33-50.

Sadaf, A., Newby, T.J. & Ertmer, P.A. (2016). An Investigation of the Factors That Influence Preservice Teachers' Intentions and Integration of Web 2.0 Tools. *Educational Technology Research and Development, 64*, (1), 37-64.

Sandholtz, J.H. (2002). In-service Training or Professional Development: Contrasting Opportunities in a School/University Partnership. *Teaching and Teacher Education, 18,* (7), 815-830.

Sang, G., Valcke, M., Braak, J. & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computer and Education, 54*, (1), 103-112.

Saunders, M. (2003). *Research Methods for Business Students*. Financial Times: Prentice Hall.

Schlager, M. S. & Fusco, J. (2003). Teacher professional development, technology, and communities of practice: Are we putting the cart before the horse? *The Information Society, 19*, 203-220.

Schwandt, T. A. (2007). *The Sage Dictionary of Qualitative Inquiry* (3rd ed.), Thousand Oaks, CA: Sage Publication, Inc.

Scott, L.C. (2015). UNESCO *The Future of Learning 3: What kind of pedagogies for the 21st Century*. Retrieved from: http://unesdoc.unesco.org/images/0024/002431/243126e.pdf.

Scrimshaw, P. (2004). *Enabling teachers to make successful use of ICT*. Coventry: BECTA.

Skryabin, M., Zhang, J. Liu, L. & Zhang, D. (2015). How the ICT development level and usage influence student achievement in reading, mathematics, and science. *Computers & Education, 85*, (1). 49-58.

Son, J.B. (2018). *Teacher development in technology-enhanced language teaching*. London: Palgrave Macmillan.

Son, J.B. & Windeatt, S. (2017). *Language Teacher Education and Technology*. London: Bloomsbury Academic.

Son, J. B. (2014). Moving beyond basics: From CALL coursework to classroom practice and professional development. In J. B. Son (Ed.), *Computer-assisted language learning: learners, teachers, and tools* (pp. 122–49). Newcastle upon Tyne, England: Cambridge Scholars Publishing.

Spencer-Oatey, H. (2007). Theories of identity and the analysis of face. *Journal of Pragmatic, 39,* (4), 639-656.

Stephens, D., Morgan, D. N., Donnelly, A., DeFord, D., Young, J., Seaman, M., . . . Hamel, E. (2007). *The South Carolina Reading Initiative: NCTE's reading initiative as a scientific staff development project.* Urbana: National Council of Teachers of English.

Stockwell, G. (2018). *Mobile Assisted Language Learning: Concepts, Contexts & Challenges.* Cambridge: Cambridge University Press.

Stockwell, G. (2012). *Computer-Assisted language learning: Diversity in research and practice.* Cambridge: Cambridge University Press.

Stockwell, G. (2014). Exploring theory in computer-assisted language learning. In X. Deng & R. Seow (Eds), *Alternative Pedagogies in the English Language & Communication Classroom: Selected Papers from the Fourth CELC Symposium for English Language Teachers* (pp. 25-30). Singapore: Centre for English Language Communication, National University of Singapore.

Stoll, L. & Seashore, L.K. (2007). *Professional Learning Communities*. Maidenhead: Open University Press.

Strong, J. H. (2015). Qualities of Effective Teachers. (3rd Ed). Alexandria, VA: ASCD.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of graduate medical education*, 5, (4), 541-542.

Tan S., Cheah H., Chen W., Choy D. (2017) *Integrating ICT into K-12 Education – A Global Perspective.* In: Pushing the Frontier. Springer, Singapore

Tang, R. W. Y. (2016). Redeeming Philosophy Through the Issue-Inquiry Approach: A Case in Hong Kong. In *Sociological and Philosophical Perspectives on Education in the Asia-Pacific Region* (pp. 23-36). Springer Singapore.

Tashakkori, A. & Teddlie, C. (1998). *Mixed Methodology Combining Qualitative and Quantitative Approaches* (Vol. 46). Thousand Oaks: Sage Publications, Inc.

Tatzl, D. (2011) English-medium masters' programmes at an Austrian university of applied sciences: Attitudes, experiences and challenges. *Journal of English for Academic Purposes, 10*, (4), 252-70.

Teräs, H, (2016). Collaborative online professional development for teachers in higher education. *Professional Development in Education. 42,* (2), 258.275.

The Richard W. Riley College of Education and Leadership at Walden University, (2010).

Thurlings, M., Evers, A. & Vermeulen, M. (2015). Toward a model of explaining teachers' innovative behavior: a literature review. *Review of Educational Research, 85*, (3), 430-471,

Timperley, H., & Alton-Lee, A. (2008). Reframing teacher professional learning: An alternative policy approach to strengthening valued outcomes for diverse learners. *Review of Research in Education, 32*, (1), 328-369.

Timperley, H., Wilson, A., Barrar, H. & Fung, I. (2007). *Teacher Professional Learning and Development*. New Zealand Ministry of Education.

To, J. & Carless, D. (2016). Making productive use of exemplars: Peer discussion and teacher guidance for positive transfer of strategies. *Journal of Further and Higher Education, 40,* (6), 746-764.

Tondeur, J., Aesaert, K., Pynoo, B., Braak, J. Frayman, N. & Erstad, O. (2015). Developing a validated instrument to measure preservice teachers' ICT competencies: Meeting the demands of the 21st century. *British Journal of Educational Technology, 48*, (2). Retrieved from https://onlinelibrary.wiley.com/doi/10.1111/bjet.12380

Tondeur, J., van Braak, J., Siddiq, F. & Scherer, R. (2016). Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement. *Computers & Education, 94,* (C), 134-150.

Tondeur, J., Fokosh-Baruch, A., Prestridge, S., Albion, P. & Edirisinghe, S. (2016). Responding to Challenges in Teacher Professional Development for ICT integration in Education. *Journal of Educational Technology & Society, 19*, (3), 110-120.

Tondeur, J., Van Braak, J., Ertmer, P.A. & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development, 65,* (3), 555-575.

Trent, J. (2012). Research engagement as identity construction: Hong Kong preservice teachers' experiences of a compulsory research project. *Teacher Development, 16*, (2), 145-160.

Tsybulsky, D. & Leven, I. (2017). Inquire-based science education and the digital research triad. In I. Levin & D. Tsybulsky (Eds), *Digital tools and solutions for inquire-based STEM learning* (pp. 140-165). Hershey: IGI Global.

Tuckett, A.G. (2005). Applying thematic analysis theory to practice: A researcher's experience. *Contemporary Nurse, 19*, (1-2), 75-87.

UNESCO Education Strategy 2030. (2019). United Nations Educational, Scientific and Cultural Organisation: Paris, France.

University Grant Committee Report on Higher Education in Hong Kong (2016).

University Grant Committee Report on Higher Education in Hong Kong (2014).

Van den Bergh, Ros. & Beijaard, (2014). Improving teacher feedback during active learning effects of a professional development program. *American Educational Research Journal, 51*, (4), 772-809.

Van den Bergh, Ros. & Beijaard, (2015). Teacher learning in the context of a continuing professional development programme: A case study. *Teaching and Teacher Education*, *47*, (1), 142-150.

Van Mol, C. (2017). Improving web survey efficiency: the impact of an extra reminder and reminder content on web survey response. *International Journal of Social Research Methodology, 20*, (4), 317-327.

Vanassche, E. & Kelchtermans, G. (2014). Teacher educators' professionalism in practice: Positioning theory and personal interpretive framework. *Teaching and Teacher Education, 44*, 117-127.

Van Veen, K., Zwart, R. C. & Meirink, J. (2012). What makes teacher professional development effective? A literature review. In M. Kooy, & K. van Veen (Eds.), *Teacher learning that matters: International perspectives* (pp. 3-21). (Routledge research in education; Vol. 62). New York: Routledge.

Vangrieken, K., Meredith, C., Packer, T. & Kyndt, E. (2017). Teacher Communities as a context for professional development: A systematic review. *Teaching and Teacher Education, 61*, (1), 47-59.

Veen, W. (1993). The Role and Beliefs in the Use of Information Technology: implications of teacher education, or teaching the right thing at the right time. *Journal of Information Technology for Teacher Education, 2*, (2), 139-153.

Venkatesh, V., Croteau, A.M. & Rabah, J. (2014). Perceptions of Effectiveness of Instructional Uses of Technology in Higher Education in an Era of Web 2. https://ieeexplore.ieee.org/abstract/document/6758617

Vermunt, J.D. & Endedijk, M.D. (2011). Patterns in teacher learning in different phases of the professional career. *Learning and Individual Differences, 21*, (3), 294-302.

Verma, G. K. & Mallick, K. (1999). *Researching education: Perspectives and techniques.* Philadelphia: Open University Press.

Vongkulluksn, V., Xie, K. & Bowman, M. (2018). The role of value on teachers' internalization of external barriers and externalization of personal beliefs for classroom technology integration. *Computers & Education, 118*, (2), 70-81.

Voogt, J. & Knezek, G. (2018). Rethinking Learning in a Digital Age: Outcomes from EDUsummIT 2017. *Technology, Knowledge and Learning, 23*, (3), 369-375.

Voogt, J., Laferriere, T. Breuleux, A., Itow, R.C., Hickey, D.T. & McKenney, S. (2015). Collaborative design as a form of professional development. *Instructional Science, 43*, (2), 259-282.

Vrasidas, C. (2015). The rhetoric of reform and teaches' use of ICT. *British Journal of Educational Technology, 46*, (2). Retrieved from https://onlinelibrary.wiley.com/doi/full/10.1111/bjet.12149.

Ward-Parsons, A., Winneur-Akrum, J. & Morewood, A. (2016). Professional Development to Promote Teacher Adaptability. *Theory Into Practice, 55*, (3), 260-258.

Walsh, C. S., Bradshaw, P. & Twining, P. (2011). e-Learning through collaborative teacher professional development in primary and secondary schools in England. *IADIS International Conference e-Learning 2011*, Italy. Rome. Retrieved from http://oro.open.ac.uk/29180/.

Waight, N., Chiu, M.M. & Whitford, M. (2014). Factors that influence Science Teachers' selection and usage of technologies in High School Science Classrooms, 23, (5), 668-681.

Wang T. & Towey, D. (2012*). Understanding the digital natives: a rethinking of ICT literacy in Hong Kong.* Retrieved from http://ocs.cite.hku.hk/index.php/citers2012/ELCLETP/paper/view/537.

Watson, C. (2006). Narratives of practice and the construction of identity in teaching. *Teachers and Teaching: Theory and Practice, 12,* (5), 509-526.

Welman, C., Kruger, F. & Mitchell, B. 2009. *Research Methodology* (3rd ed). Cape Town: Oxford Press.

Westerman, M. A. (2006). Quantitative research as an interpretive enterprise: The mostly unacknowledged role of interpretation in research efforts and suggestions for explicitly interpretive quantitative investigations. *New Ideas in Psychology, 24*, (3), 189–211.

Wilden, S. (2017). *Mobile Learning into the classrooms*. Oxford: Oxford University Press.

Wilkins, C. (2011). Professionalism and the post-performative teacher: new teachers reflect on autonomy and accountability in the English school system. *Professional Development in Education, 37*, (3), 389-409.

Willis, J.W. (2008). *Qualitative research methods in education and educational technology*. Charlotte, NC: Information Age Publishing.

Wilson, N. & McLean, S. (1994). *Questionnaire Design: A Practical Introduction*. Newtown Abbey: University of Ulster Press.

Woodrow, L. (2014). *Writing about quantitative research in applied linguistics*. New York: Palgrave.

Woodward, T. Graves, F. & Freeman, D. (2018). *Teacher Development Over Time: Practical Activities for Language Teachers*. New York, USA: Routledge.

Yanchar, S. C. & Williams, D. D. (2006). Reconsidering the compatibility thesis and eclecticism: Five proposed guidelines for method use. *Educational Researcher, 35,* (9), 3-12.

Yates, C., Partridge, H. & Bruce, C. (2012). Exploring information experiences through phenomenongraphy. *Library and Information Research, 36*, (112), 96-119.

Yeung, A.S., Craven, R.G. & Kaur, G. (2014). Teachers' self-concept and valuing of learning: relations with teaching approaches and beliefs about students. *Asia-Pacific Journal of Teacher Education, 42,* (3), 305-320.

Yeung, A.S., Taylor, P.G. & McWilliam, E.L. (2013). Inventory of pedagogy and practice: Confirmatory factor analysis of multiple facets of teaching. *International Journal of Research & Method in Education, 36*, (2), 162–178.

Yi, Y. & Angay-Crowder, T. (2016). Multimodal Pedagogies for Teacher Education in TESOL. *TESOL Quarterly 50*, (4), 988-998.

Zeichner, K.M. (2008). A Critical analysis of reflection as a goal for teacher education. *Educacao & Sociedade, 29*, (103), 535-554.

Zeng, X. (2008). *Teacher education in the context of social change in China. Country report submission to the international alliance of leading education institutes*. Retrieved from http://www.intlalliance.org/china13ang.pdf at google.com.np.

Zhu, C. (2015). Organisational culture and technology-enhanced innovation in higher education. Technology. *Pedagogy and Education, 24*, (1), 65-79.

Öztaş, F. & Dilmac, B. (2009). Value judgments and perceived self-efficacy of biology teacher candidates. *Social Behavior and Personality, 37*, (3), 329-334.

Appendix 1. Questionnaire

UNIVERSITY OF
EXETER

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

Survey Information and Participant Consent

This project will explore professional development in information communication skills at the tertiary level in Hong Kong with the purpose to gain a richer understanding of how teachers actually participate in PD activities centred around ICT. The data collected will form the basis of my Doctor of Education in TESOL thesis at the University of Exeter. In addition, I expect the data to be presented both in presentations at regional and international conferences and in at least one journal article. The results of the research will be published in anonymised form.

Participant Consent: I have been fully informed about the aims and purposes of the project.

I understand that:
there is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation and may also request that my data be destroyed

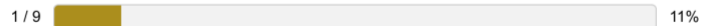I have the right to refuse permission for the publication of any information about me

any information which I give will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations

if applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form

all information I give will be treated as confidential

the researcher(s) will make every effort to preserve my anonymity.

If you agree with the above, please continue to complete the survey.

1 / 9   11%

Next

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

* 1. What is your gender?

○ Male

○ Female

* 2. What is your age?

○ 21-25

○ 26-30

○ 31-35

○ 36-40

○ 41-45

○ 46-50

○ 51-55

○ 56-60

○ 61+

* 3. What is your current workplace?

○ The Hong Kong Polytechnic University

○ The Education University of Hong Kong

○ The Chinese University of Hong Kong

○ The University of Hong Kong

○ Hong Kong University of Science and Technology

○ The City University of Hong Kong

○ The Baptist University of Hong Kong

*** 4. What is your your current position at the University?**

○ Instructor

○ Senior Instructor

○ Teaching Fellow

○ Lecturer

○ Senior Teaching Fellow

○ Senior Lecturer

○ Associate Professor

○ Assistant Professor

○ Professor

○ Other (please specify)

* 5. What is your total number of years teaching experience?

○ 1-5 years

○ 6-10 years

○ 11-15 years

○ 16-20 years

○ 21-25 years

○ 25+ years

6. In what countries have you worked as an English teacher?

2 / 9 ▓▓▓▓▓░░░░░░░░░░░ 22%
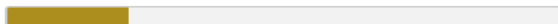
Prev   Next

227

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

Research Question 1

* 7. How often have you engaged in the following professional development activities during your professional career?

	More than 3 times a year	2-3 times a year	Once every year	Once every 2-3 years	Never
Conducting action research into ICT skills.	○	○	○	○	○
Attending conferences, workshops, seminars or courses in ICT skills.	○	○	○	○	○
Reading professional literature involving ICT (e.g. journals, evidence-based papers, thesis papers).	○	○	○	○	○
Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation etc) in use/adaption of ICT with colleagues.	○	○	○	○	○
Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).	○	○	○	○	○

3 / 9   33%

Prev   Next

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

Research Question 2

* 8. In your opinion, how useful are the following various modes of professional development for enhancing your teaching? 💬

	Very Useful	Useful	Neutral	Limited Usefulness	Not very Useful
Conducting action research into ICT skills.	○	○	○	○	○
Attending conferences, workshops, seminars or courses on ICT skills.	○	○	○	○	○
Reading professional literature in ICT (e.g. journals, evidence-based papers, thesis papers).	○	○	○	○	○
Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation etc) involving use/adaption of ICT with colleagues.	○	○	○	○	○
Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).	○	○	○	○	○

4 / 9　　44%

Prev　　Next

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

* 9. To what degree do you agree or disagree with the following statements about integrating ICT in your teaching? 💬

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
As a teacher, I like to use ICT in my lessons.	○	○	○	○	○
ICT makes the course content more lively.	○	○	○	○	○
ICT can help students acquire understanding of course content.	○	○	○	○	○
The knowledge students acquire using ICT remains superficial.	○	○	○	○	○
Students have difficulty transferring knowledge from ICT activities to paper-and-pencil tasks.	○	○	○	○	○
Using ICT makes students enthusiastic.	○	○	○	○	○
Teachers don't have enough time to integrate ICT in their teaching.	○	○	○	○	○
The use of ICT in the lesson limits teachers' freedom.	○	○	○	○	○
Using ICT provides you as a teacher with more means to build whole class discussions on the students' ideas.	○	○	○	○	○
As a teacher, it is difficult to be in full control of lessons that use ICT.	○	○	○	○	○
If you use ICT in your lesson, you have to completely change your teaching style.	○	○	○	○	○
Compared to using paper-and-pencil, ICT makes what students do more visible to the teacher.	○	○	○	○	○
As a teacher, you can't see what is learnt through the ICT.	○	○	○	○	○
ICT has limited capacity to provide benefits in the classroom.	○	○	○	○	○
As a teacher, I like the challenges of exploring technology and new software and its possibilities.	○	○	○	○	○

5 / 9   56%

Prev   Next

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

* 10. How useful do you think the following professional development activities are in helping you use ICT in your teaching? 💬

	Very Useful	Useful	Neutral	Limited Usefulness	Not Very Useful
Conducting action research into ICT skills.	○	○	○	○	○
Attending conferences, workshops, seminars or courses in ICT skills.	○	○	○	○	○
Reading professional literature in ICT (e.g. journals, evidence-based papers, thesis papers).	○	○	○	○	○
Sharing good teaching practice (e.g. mentoring, informal dialogues, lesson planning, peer observation etc) involving use/adaption of ICT with colleagues.	○	○	○	○	○
Participating in a network of teachers formed specifically for the professional development of teachers in ICT skills (Community of Practice).	○	○	○	○	○

6 / 9   67%

Prev   Next

PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

11. Anything you would like to add about professional development in relation to ICT? 💬

7 / 9   78%

Prev   Next

12. If you would like to participate in a follow-up semi-structured interview (approximately 30-40 minutes) to discuss the results and implications of the questionnaire please leave your contact information (Name, University, Position, Email) 💬

8 / 9   89%

Prev   Next

UNIVERSITY OF
EXETER
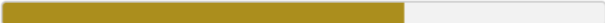
PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption

Thank you

Thank you so much for completing the survey.

For further information about the research, please contact:
Name: Lucas Kohnke
Postal address: Baring Court University of Exeter St Luke's Campus Heavitree Road Exeter, EX1 2LU UK
Telephone: +852 (0)5982-6982
Email: lmak202@exeter.ac.uk

If you have concerns/questions about the research you would like to discuss with someone else at the University, please contact:

Name: Dr. Li Li (thesis supervisor)
Postal address: Baring Court University of Exeter St Luke's Campus Heavitree Road Exeter, EX1 2LU UK
Telephone: +44 (0)1392-722880
Email: li.li@exeter.ac.uk
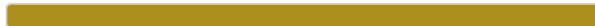
9 / 9   100%

Prev   Done

Appendix 2. Interview guide

<u>Introductory Questions /Information</u>

Tell me a little about your background

- Where are you originally from?
- How long have you worked in HK?
- Have you worked in any other countries?
- What type of classes / students do you teach?

………………………………………………………………………………………………...

<u>Transition Questions</u>

I'd like to understand how you see PD in relation to ICT

- Have you ever done any PD in ICT?

    o If so, what was it like?
    o If not, would you like to? Why or why not?

- Are you aware of any policy regarding PD in relation to ICT in your work place?

    o Do they have a budget for it?
    o Is it very common at your institution for instructors to have PD in ICT?
    o Either way, what is your view on the institutional policy?

- Have you used a lot of ICT in class at all?

    o If so, how did it go?
    o If not, would you like to do more of it?

- What is the PD in ICT like at the different places you have worked?

    o Is it mostly information provided to instructors?
    o Is it mostly hands-on training with practical examples?
    o Is completely left up to the individual instructors?

        - Why did you participate in these activities?

………………………………………………………………………………………………

<u>Key Questions</u>

I'd like to understand why you have recently participated in PD in relation to ICT.

- What are the most recent PD in ICT activities you have participated in?

  - Why did you participate in these activities?
  - Can you describe those experiences for me?
  - How useful have these activities been to enhance your teaching?
  - Can you think of anything recently in one of your classes which can illustrate this?
  - Could you tell me a story about PD, for example one effective one and one not so good and explain.

I'd like to understand what you think of integrating ICT into your English language teaching.

- What are your attitudes and beliefs about integrating ICT in English Language Teaching?

  - What are the benefits of integrating ICT into your teaching?
  - What are the shortcomings of integrating ICT into your teaching?

- Are there any particular skills a teacher needs to have to integrate ICT in their teaching?

  - If yes, of the skills you mentioned, which ones do you possess?
  - How did you acquire them?

- What type of PD do you think are useful in helping you use ICT in your teaching?
- Have any PD activities changes your attitudes and beliefs in integrating ICT in your teaching?

………………………………………………………………………………………………...

Closing Questions

Before we conclude this semi-structured interview, is there something you would like to add about professional development in relation to ICT that we have not yet had a chance to discuss?

Appendix 3. Interview Analysis Sheet

Interview Analysis Sheet

Participant: Jayle
Date: 26 Jan
Location:
Interviewer: LM

Similarities:
Funding
Low-tech ICT in the classroom
PD not always relevant/rich enough/lack practical.
Ask colleagues/friends for ideas/help.

Differences:
use a lot of clickers
personal motivation to attend conferences.
Not afraid of trying out new things.
Self-starter → look for help online.

Problems:
ICT distraction / fear of losing control.
Mixed bag / not positive at times to existing mode.
"pressure" / student expectations.

Implications:
Many opportunities
need to try out new things.
Appraisal system — pressure.

(1) Easy going, talkative, comfortable.

(2) Started to look at the watch (a lot) towards the end. felt I needed to speed things up.

(3) Positive to PD, can't always articulate good PD in ICT. /relays on colleagues for help and ideas.

Appendix 4. Consent Information sheet

UNIVERSITY OF EXETER

INFORMATION SHEET AND CONSENT FORM FOR RESEARCH

Title of Research Project
PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption.

Details of Project
This project will explore professional development in information communication skills at the tertiary level in Hong Kong with the purpose to gain a richer understanding of how teachers actually participate in PD activities centred around ICT.

The data collected will form the basis of my Doctor of Education in TESOL thesis at the University of Exeter. In addition, I expect the data to be presented both in presentations at regional and international conferences and in at least one journal article. The results of the research will be published in anonymised form.

If you agree to participate in the study, an online questionnaire will be sent for you to answer about how you see yourself as a teacher and about teacher job satisfaction. The questionnaire is expected to take 20-30 minutes to answer.

For those who agree to, a follow-up semi-structured interview will be scheduled. You can choose to participate only in the initial questionnaire without any obligation to take part in the follow-up semi-structured interview. The follow-up semi-structured interview would take about 30-40 minutes and it will discuss the results and the possible reasons behind the results of the questionnaire.

Contact Details
For further information about the research, please contact:

Name: Lucas Kohnke
Postal address: Baring Court
                University of Exeter St Luke's Campus
                Heavitree Road
                Exeter, EX1 2LU
                UK
Telephone: ▮▮▮▮▮▮▮▮▮▮▮
Email: lmak202@exeter.ac.uk

If you have concerns/questions about the research you would like to discuss with someone else at the University, please contact:

Name: Dr. Li Li (thesis supervisor)
Postal address: Baring Court
                University of Exeter St Luke's Campus
                Heavitree Road
                Exeter, EX1 2LU
                UK
Telephone: ▮▮▮▮▮▮▮▮▮▮▮
Email: li.li@exeter.ac.uk

Confidentiality

Interview recordings and transcripts will be held in confidence. They will not be used other than for the purposes described above and third parties will not be allowed access to them (except as may be required by the law). However, if you request it, you will be supplied with a copy of your interview transcript so that you can comment on and edit it as you see fit (please give your email below so that I am able to contact you at a later date). Your data will be held in accordance with the Data Protection Act.

Data Protection Notice

The information you provide will be used for research purposes and your personal data will be processed in accordance with current data protection legislation and the University's notification lodged at the Information Commissioner's Office. Your personal data will be treated in the strictest confidence and will not be disclosed to any unauthorised third parties.

The data from the questionnaire will be stored in an anonymised form in a password protected file on a password protected hard drive. The semi-structured interviews will be digital recorded and immediately transferred into a password protected file stored on a password protected hard drive and the recordings will be deleted from the digital recorder.

The data will not be shared with any other parties except for my thesis supervisors, and then only in anonymised form. All data collected will be destroyed one year after completion of the analysis, and until being destroyed will be stored in encrypted form on a password-protected computer hard drive. Participants can have access to the data at their request. This research has been self-funded.

Anonymity

Interview data will be held and used on an anonymous basis, with no mention of your name. Confidentiality and the anonymity of participants will be maintained by substituting informants' names with pseudonyms at the transcribing and analysing stage of interview data. No identifying features such as voice, video, or specific bibliographic information will appear in conjunction with the pseudonyms or will ever be shared in any way.

The participant in the semi-structured interviews will be asked not to share the details discussed during the interview with people. During the interviews participants can decline to answer any question.

Consent

I have been fully informed about the aims and purposes of the project.

I understand that:
- there is no compulsion for me to participate in this research project and, if I do choose to participate, I may withdraw at any stage;
- I have the right to refuse permission for the publication of any information about me;
- any information which I give will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations;
- If applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form;
- all information I give will be treated as confidential;

UNIVERSITY OF
EXETER

**INFORMATION SHEET AND CONSENT
FORM FOR RESEARCH**

- the researcher(s) will make every effort to preserve my anonymity.

....
(Signature of participant)

....
(Date)

....
(Printed name of participant)

....
(Email address of participant if they have
requested to view a copy of the interview
transcript.)

....
(Signature of researcher)

....
(Printed name of researcher)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher(s). Your contact details are kept separately from your interview data.

Appendix 5. Transcript

[00:00:00] Interviewer: So, I like to thank you once again for being willing to participate in the interview aspect of my study. As I mentioned to you before, my study will explore professional development in information communication skills at the tertiary level in Hong Kong, with the purpose to gain a richer understanding of our teachers actually participate in PD activities centered around ICT. This Interview should last around 20 to 30 minutes, which I'll be asking you about your professional development in ICT experience and so forth.
Prior to this interview you completed a consent form indicating that I have your permission to audio record our conversation. Any questions before we start?

[00:00:42] Joyce: No.

[00:00:43] Interviewer: No, alright. So maybe to start with could just tell me a little bit about your background, like where you're from, how long you've been in Hong Kong?

[00:00:51] Joyce: Okay, sure. Um, let's see. I'm from the US, and I've been in Hong Kong I think about six years. I got my master's degree in teaching English here and then I came working at the xxxx. I've been teaching here for five years I believe. And, before coming to xxxx I worked-- I taught at universities in South Korea and China for about seven years, and previous to that I worked in administration at a university in the US, I was the Director of Continuing Education. And, um, before that, I was a radio Dj [chuckle] and did kinda work for some marketing companies.

[00:01:38] Interviewer: Thank you.

[00:01:42] Interviewer: What type of classes do you normally teach?

[00:01:46] Joyce: Technically I teach Academic English, 101, teaching students how to do research and write, you know, research based papers, and um, 3521 which is Professional Communication for Engineers, teaching them how to write a com-conceive of an engineering related project-

[00:02:07] Interviewer: Umm-hmm.

[00:02:08] Joyce: -write a proposal and give a persuasive presentation.

[00:02:10] Interviewer: Okay

[00:02:11] Joyce: I'm teaching a new course this semester which is about extensive, um, reading and writing skills.

[00:02:20] Interviewer: Thank you. So, I'd like to understand more about how you see PD in relation to ICT.

[00:02:27] Joyce: Okay.

[00:02:28] Interviewer: Have you done any PD in ICT? I mean, any professional development in ICT specifically?

[00:02:37] Joyce: I-I love going to conferences-

[00:02:40] Interviewer: Hmm.

[00:02:40] Joyce: -and workshops.

[00:02:41] Interviewer: Yes.

[00:02:42] Joyce: [chuckles] So I certainly have--

[00:02:44] Interviewer: Umm-hmm.

[00:02:45] Joyce: Um, typically it's not something I seek out-

[00:02:49] Interviewer: Yeah.

[00:02:50] Joyce: -but, in my mind that I know is good for me. You know there's always the push to-

[00:02:56] Interviewer: Yeah.

[00:02:57] Joyce: -incorporate it into classrooms and-

[00:02:58] Interviewer: Yeah.

[00:02:59] Joyce: -um, so I do. I believe, you know, I-I-I do, um, engage in this.

[00:03:05] Interviewer: Alright.

[00:03:06] Joyce: Does that make sense?

[00:03:07] Interviewer: Sure.. Um, okay. So-- and then, in terms of working at this university, um, are you aware of any policy towards encouraging teachers to participate in PD?

[00:03:21] Joyce: I should, I'm on the committee.

[00:03:22] Interviewer: Yeah.

[00:03:22] Joyce: [laughs] Um--

[00:03:24] Interviewer: What-what kind of incentive is there?

[00:03:26] Joyce: Incentives. Well there's always the free lunch-

[00:03:29] Interviewer: Right

[00:03:29] Joyce: -when you attend these sessions-

[00:03:30] Interviewer: ok

[00:03:31] Joyce: -um, and free snacks if you go to an EDC session.

[00:03:35] Interviewer: Yeah.

[00:03:36] Joyce: Um, I think generally, you know we have the appraisal system-

[00:03:40] Interviewer: Hmm.

[00:03:40] Joyce: -and that's always a place where you can show your certificates for the PD work you've done.

[00:03:46] Interviewer: Yeah.

[00:03:47] Joyce: Um, that's the only thing I'm aware of-

[00:03:49] Interviewer: Yeah.

[00:03:49] Joyce: -that I can think of.

[00:03:50] Interviewer: Um, is there any budget involved? Can you get the funding for any activity?

[00:03:53] Joyce: Oh, sure. Yeah, yeah. So, our staff development-

[00:03:55] Interviewer: Yeah.

[00:03:56] Joyce: -it's 10,000 now a year and if you publish you get an extra 3,000 I believe.

[00:04:00] Interviewer: Yeah.

[00:04:01] Joyce: Yeah.

[00:04:02] Interviewer: Um, and in your knowledge, is it common for teachers to participate in PD activities?

[00:04:10] Joyce: I think it's common-

[00:04:11] Interviewer: Hmm.

[00:04:12] Joyce: -um, and I think it depends on the individual.

[00:04:16] Interviewer: Hmm.

[00:04:17] Joyce: Um, certainly. Um, among my friends, we-- a lot of us really like it.

[00:04:24] Interviewer: Yeah.

[00:04:25] Joyce: But I-I think there maybe is a group of people that are not interested.

[00:04:29] Interviewer: Really.

[00:04:29] Joyce: Yeah.

[00:04:30] Interviewer: Alright. Um ok. This interview is generally about ICT, um, to get a feeling for how you perceive it. Um, do you use ICT in class at all?

[00:04:44] Joyce: Sure. Um, I almost always or always pretty much, um, have a PowerPoint-

[00:04:50] Interviewer: Hmm.

[00:04:50] Joyce: -in each class. Um, and, um, often use videos, maybe on average like two or-two per lesson or something.

[00:05:05] Interviewer: Hmm.

[00:05:06] Joyce: Um, I use different online, um, I don't know what they are called, platforms or something-

[00:05:16] Interviewer: Hmm.

[00:05:16] Joyce: -like, um, the latest I learned at a conference …I was in Texas recently, there's PollEverywhere.

[00:05:24] Interviewer: Hmm.

[00:05:24] Joyce: It was used really well there and, um, so I've been using that. Um, I use Quizzes, sometimes Kahoot!, I've tried some others such as Today's Meet!, PollEverywhere--oh, no I mentioned Poll already. There's another one, MySurvey or something.

[00:05:46] Interviewer: Alright.

[00:05:47] Joyce: Um-

[00:05:48] Interviewer: Um--

[00:05:48] Joyce: -that's some-that's some of what I do.

[00:05:49] Interviewer: So, you basically you incorporate quite a lot actually,

[00:05:54] Joyce: Yeah, and th-there's something new I started this semester that I learned from Dennis-[colleague]

[00:05:57] Interviewer: Umm-hmm.

[00:05:58] Joyce: -from- one of his sessions, which is to have a OneDrive folder for-

[00:06:01] Interviewer: Hmm.

[00:06:01] Joyce: -the class.

[00:06:02] Interviewer: Yeah.

[00:06:02] Joyce: And I use a tiny URL-

[00:06:03] Interviewer: Okay.

[00:06:04] Joyce: -and, um, it's so much easier to share resources that way. And, so I'm having the students, like if they're writing homework and upload their writing to this folder.

[00:06:14] Interviewer: Hmm.

[00:06:14] Joyce: So easy.

[00:06:15] Interviewer: Yeah.

[00:06:15] Joyce: Yeah.

[00:06:16] Interviewer: Um, is the—okay. Um. So, before here you taught in South Korea and China-

[00:06:24] Joyce: Umm-hmm.

[00:06:25] Interviewer: -and then here in Hong Kong,

[00:06:28] Joyce: Umm-hmm.

[00:06:28] Interviewer: -is there any difference in usage of ICT on your behalf? Have you started using more or less or--

[00:06:35] Joyce: Huge difference.

[00:06:35] Interviewer: Yeah.

[00:06:36] Joyce: Because in, um, both Korea and China we did not have computers in the classroom. [laughs] Maybe in one of the classrooms in Korea-

[00:06:47] Interviewer: Yeah.

[00:06:47] Joyce: -but it wasn't standard.

[00:06:50] Interviewer: Okay.

[00:06:50] Joyce: When I taught the English majors there was a computer in their classroom but-

[00:06:53] Interviewer: Yeah, yeah.

[00:06:54] Joyce: -typically, um, not. So-

[00:06:57] Interviewer: hmm.

[00:06:57] Joyce: -it's been a learning curve for me-

[00:06:58] Interviewer: hmmm.

[00:06:58] Joyce: -here in Hong Kong to kind of play catch-up.

[00:07:01] Interviewer: hmmm.

[00:07:01] Joyce: Yeah.

[00:07:02] Interviewer: Um, and then also compared to South Korea and China, now Hong Kong-

[00:07:07] Joyce: Hmm.

[00:07:08] Interviewer: -um, is there a difference in the way professional development is carried out? Is it more frequent in Hong Kong compared to those countries or did you participate equally?

[00:07:18] Joyce: Yeah. Um, much more frequent here.

[00:07:20] Interviewer: okay

[00:07:21] Joyce: Um, I feel like in Hong Kong there's so many opportunities for it. I mean, this is one thing that I like about Hong Kong is, there's a lot going on.

[00:07:32] Interviewer: Hmm.

[00:07:33] Joyce: Um--

[00:07:35] Interviewer: In Hong Kong-- how are the opportunities-- um, I mean, how are opportunities provided? Is it mostly information, like do they send out posters, leaflets, guides, or do they provide like hands-on training with practical examples of how to use certain tools?

[00:07:54] Joyce: Sorry, your question is about the-

[00:07:55] Interviewer: The--

[00:07:55] Joyce: -the methods themselves?

[00:07:56] Interviewer: Yeah, basically how do you think they're trying to teach you how to use ICT in Hong Kong?

[00:08:04] Joyce: Um, seems like there's a range. I think that in some instances, which I think are the most enjoyable, they use the technology itself-

[00:08:16] Interviewer: Yeah.

[00:08:17] Joyce: -so that you experience it and have some familiarity with it, and then you see how you can use it. Um, that's certainly the most useful.

[00:08:26] Interviewer: Could you describe one example of--

[00:08:28] Joyce: Sure. Um, one comes to mind. Just like a lot of sessions with, I wanna say it was maybe Kahoot!-

[00:08:37] Interviewer: Okay.

[00:08:38] Joyce: -and, um, it was questions, you know, geared to our level, about something and we were actually doing the activity. Yeah, I'm pretty sure it was Kahoot!. And, um- and I plan to do that, my upcoming session I'm going to use PollEverywhere-

[00:08:54] Interviewer: Oh, okay.

[00:08:54] Joyce: -as demonstration of one of the things I'm-

[00:08:57] Interviewer: Yeah.

[00:08:57] Joyce: -showing.

[00:08:58] Interviewer: Okay. Um, why do you like to participate in these activities? What drives you?

[00:09:03] Joyce: Yeah, um, I think it's because I like--I love like experiential learning. Um, I love learning, that's why I became a teacher.

[00:09:12] Interviewer: Umm-hmm.

[00:09:13] Joyce: Um, I'm--I feel like, you know, um, just being an American I don't mind like kind of making a fool of myself and having fun. I think other colleagues might have cultural barriers that, you know, they don't know the space and do something like that. So, um, I just like to have fun, you know. I-- it was in my classroom with my students and then as I'm learning something as well.

[00:09:37] Interviewer: Hmm hmm. Yeah, it's good. Um, and then, what's the most recent PD you participated in?

[00:09:49] Joyce: I think it would be the conference I was at in Texas.

[00:09:52] Interviewer: Texas--yeah. Um--

[00:09:55] Joyce: January 4th or 6th I believe.

[00:09:57] Interviewer: Why did you decide to go to that conference?

[00:10:00] Joyce: Yeah, um, I had a few different motivations.

[00:10:03] Interviewer: Hmm.

[00:10:03] Joyce: One of them [chuckles] I must admit was the opportunity to go back to the US and have the university help pay for that ticket.

[00:10:10] Interviewer: Yeah.

[00:10:10] Joyce: It was conveniently right after Christmas. Um, I wanted to challenge myself by-- I didn't think I'd be accepted, you know, I presented there. It looked like an amazing conference and I thought, "I'm not going to be accepted." Um, so it was a little bit of challenging myself--

[00:10:27] Interviewer: Hmm hmm.

[00:10:28] Joyce: -and, um-and then the location was quite good. So, it was kind of a synergy of all these different factors.

[00:10:38] Interviewer: How did you come to hear about or know about this conference?

[00:10:42] Joyce: Yeah. Um, I just did Google searches.

[00:10:45] Interviewer: Google search, yeah.

[00:10:46] Joyce: Yeah.

[00:10:46] Interviewer: Yeah.

[00:10:46] Joyce: I do get a lot of emails, um, I feel like I'm on a list now because suddenly I'm getting, you know, probably five emails a week from different conferences.

[00:10:55] Interviewer: Yeah. Um, now, you went to this conference in Texas-

[00:11:01] Joyce: Hmm hmm.

[00:11:01] Interviewer: -you learned lots of new things, um, of those things you learned, um, what are you planning on integrating into your teaching?

[00:11:09] Joyce: Hmm hmm.

[00:11:10] Interviewer: Is there anything in particular?

[00:11:12] Joyce: Yeah, um, first of all it is-there's PollEverywhere- [chuckles]

[00:11:16] Interviewer: Yes.

[00:11:16] Joyce: -um, which I used my first week. It was awesome, I'm going to use it again this week. Um, I went to a great session which is-- it's not a new concept but, um, I haven't used yet. It's about making videos-- screen capture videos of you reading a text-

[00:11:36] Interviewer: Hmm hmm.

[00:11:37] Joyce: -and just voicing out loud your kind of metacognitive strategies.

[00:11:41] Interviewer: Hmm hmm.

[00:11:42] Joyce: It's a way of teaching students how to do this by modeling it. So, I went to a great session about that and realized how easy it is, that it ties in so well with the course I'm teaching-

[00:11:53] Interviewer: Hmm hmm.

[00:11:54] Joyce: -so I aim to implement that. I'm--in fact I'm gonna try to do it today. Um, I'm gonna do it and I plan to teach it in-in two weeks so the session that I'm presenting on. Um, so that's another one. So, I would have the students watching the video for homework-

[00:12:09] Interviewer: Yeah.

[00:12:10] Joyce: -several times--

[00:12:10] Interviewer: Oh, yeah.

[00:12:12] Joyce: Um, what else, about ICT? I feel like there probably was more, though I learned other-- I saws other-- like Mentimeter-

[00:12:23] Interviewer: Hmm.

[00:12:24] Joyce: -was another thing that I really enjoyed-

[00:12:26] Interviewer: Yeah.

[00:12:26] Joyce: -so unused.

[00:12:27] Interviewer: Okay

[00:12:28] Joyce: Um, I got lots of interesting ideas like, um, having students put-- you know, um, you can do this with Padlet or something, but like, students find an image-

[00:12:44] Interviewer: Hmm.

[00:12:45] Joyce: -that captures something about their setting where they are studying-

[00:12:48] Interviewer: Yeah, yeah.

[00:12:48] Joyce: -and post it on some kind of forum or something. Um, I think that kind of-- I think it's good. I think students respond well to like, images and-

[00:13:00] Interviewer: Yeah.

[00:13:01] Joyce: -emotional kind of things.

[00:13:04] Interviewer: Um, okay, yeah. Um, in terms of professional development, is there any-- what is the most favorable one, is there one type of professional development mode that you prefer over others? I'm thinking more like, um, conferences,

workshops, lesson planning, mentoring, community of practice and type of that, is there anything that you think is more optimal so to speak?

[00:13:33] Joyce: I believe probably it's conferences, um, because ideally you are just not worried about work that day, you are just trying to focus on-

[00:13:43] Interviewer: Yeah.

[00:13:44] Joyce: -the conference and learning new things.

[00:13:45] Interviewer: Right

[00:13:46] Joyce: Umm, I like lunchtime sessions because sometimes I think they have to be well planned-

[00:13:55] Interviewer: Hmm.

[00:13:56] Joyce: -so you don't feel like you've wasted an hour.

[00:13:57] Interviewer: could you expand a little.

[00:13:58] Joyce: Um, so the content has to be rich enough and practical enough. Um, so I can be-- I've learned to be choosy to try to- [chuckle]

[00:14:09] Interviewer: Yeah, yeah.

[00:14:11] Joyce: -um, assess that. Um, you mentioned mentoring and--

[00:14:15] Interviewer: Um, mentoring, lesson planning, speaking to colleagues informally.

[00:14:21] Joyce: Yeah, yeah. Um, I enjoy doing that. I feel like, um, I used to do a lot more of that in Korea.

[00:14:31] Interviewer: Hmm.

[00:14:32] Joyce: We all shared lesson ideas and, um, I do some of that here but I feel like I kind of give more ideas than I receive. I don't mind so much-

[00:14:41] Interviewer: Hmm hmm.

[00:14:41] Joyce: -but, um--yeah, I-I-I-I like that as well-

[00:14:47] Interviewer: Yeah, yeah.

[00:14:47] Joyce: -but I don't do it as much.

[00:14:48] Interviewer: That's okay. Um, alright, so let's understand why you think integrating ICT in this line of teaching is like a good thing, why it motivates, stimulates the students.

[00:15:00] Joyce: Hmm.

[00:15:00] Interviewer: Um, to you, what are the main benefits of using ICT with your students?

[00:15:08] Joyce: Hmm, that's a good question. Main benefits, um, benefits. I think if used well it can promote student engagement.

[00:15:21] Interviewer: Hmm.

[00:15:22] Joyce: Um, students almost--you know, they have their phones, they use them, um, so one school of thought is well, if they can use them for learning then that- that's something good. So, um, big benefit.

[00:15:46] Interviewer: Oh, is it--

[00:15:46] Joyce: I think a big benefit actually I think, and this was part of the conference, is-

[00:15:49] Interviewer: Yeah.

[00:15:50] Joyce: -the students see a page of paper with text written on it and they just fall asleep.

[00:15:56] Interviewer: Hmm.

[00:15:58] Joyce: At the American conference they were talking about this about American students, and I was like, "Well, it's the same here in Hong Kong [laughs] you know." Um, so, I think part of it is realizing that they are different, you know. I-I love-- give me a page of paper and I'm happy to read it.

[00:16:13] Interviewer: True.

[00:16:13] Joyce: I'm in heaven but, um--so I think students just, um--it's a-it's a-it's a-it's a key benefit-

[00:16:20] Interviewer: Hmm.

[00:16:21] Joyce: -that they are not so text-oriented and a lot of the materials we use in ELC-

[00:16:26] Interviewer: Hmm.

[00:16:26] Joyce: -is like very text-heavy and we have to adapt it somehow to-

[00:16:32] Interviewer: hmm

[00:16:32] Joyce: -engage the students more.

[00:16:33] Interviewer: Could it be fair to say ICT helps to stimulate them more than the traditional paper?

[00:16:39] Joyce: Definitely, yeah.

[00:16:40] Interviewer: Paper, yeah.

[00:16:41] Joyce: Yeah, to stimulate, um--

[00:16:43] Interviewer: Yeah.

[00:16:43] Joyce: Yeah.

[00:16:43] Interviewer: Um, do you think-- are there any shortcomings of integrating ICT in your courses?

[00:16:49] Joyce: Definitely. Um, one of them is just, depending on the classroom you are in, it can take like 10 minutes-

[00:16:56] Interviewer: Yeah.

[00:16:56] Joyce: -just to kind of get everything powered up and-

[00:16:58] Interviewer: Ohh.

[00:16:59] Joyce: -the computers are old and-and that kind of thing. So, it takes--it can kinda get you out-out of your rhythm a bit, and I feel like you need to really stay on top of that-

[00:17:09] Interviewer: Yeah.

[00:17:09] Joyce: -with the students. Um, I think there's the potential for distraction but I don't see that as a big problem. Um--

[00:17:24] Interviewer: Okay, um, alright. So you use a lot of ICT such as PowerPoint, videos and PollEverywhere in your classes, um, are there any skills a teacher would need to use any of these tools or could anyone basically walk in and use them?

[00:17:45] Joyce: I think you do need to have a few skills.

[00:17:46] Interviewer: Yeah.

[00:17:47] Joyce: Like some of our colleagues don't have those skills-

[00:17:49] Interviewer: Hmm.

[00:17:49] Joyce: -which is why they don't use it.

[00:17:50] Interviewer: Hmm.

[00:17:51] Joyce: Um, I think I've got pretty maybe basic skills for someone my age and I'm good enough. I'm not-- [chuckles] no I rely-I do rely on other people kind of for ideas and to-

[00:18:04] Interviewer: Yeah.

[00:18:04] Joyce: -maybe to come and show me a little bit how you do it. [chuckles]

[00:18:06] Interviewer: Okay.

[00:18:07] Joyce: You know, like the simple idea Dennis [colleague] had of using the OneDrive folder-

[00:18:10] Interviewer: Hmm hmm.

[00:18:11] Joyce: -from the tiny URL.

[00:18:12] Interviewer: Right.

[00:18:13] Joyce: It never would have occurred to me, yeah.

[00:18:14] Interviewer: How-how did you acquire those skills? Is it through colleagues?

[00:18:19] Joyce: Yeah, that's a good question. Um, yeah.

[00:18:22] Interviewer: Yeah.

[00:18:22] Joyce: Asking Dennis [colleague]. [laughs]

[00:18:23] Interviewer: Yeah, yeah. He actually mentioned you saying- [laughs]

[00:18:25] Joyce: Oh yeah. **[unintelligible 00:18:27]** So, Adam [eLearning coordinator] has been putting more and more things online.

[00:18:31] Interviewer: Yeah.

[00:18:31] Joyce: So, if I don't know how to do something I usually start there.

[00:18:33] Interviewer: Hmm.

[00:18:34] Joyce: I see if Adam has provided a video or a resource on how to do it. I might also just Google it on, you know, Google it or look for a YouTube video, um, otherwise I'd see whose around in the office-

[00:18:47] Interviewer: Hmm hmm. Hmm hmm.

[00:18:47] Joyce: -and who might be able to help.

[00:18:48] Interviewer: Um, using ICT in the classroom, um, do you think it's like difficult to be in control of the lesson? Because some teachers say they're no longer in control and computer takes over, you know.

[00:19:04] Joyce: Yeah, um, honestly I think I do have that fear a bit.

[00:19:09] Interviewer: Yeah.

[00:19:10] Joyce: Um, I think maybe I am a bit controlling person. [chuckles] So, I recognize that, because this issue has come up before.

[00:19:16] Interviewer: Yeah.

[00:19:17] Joyce: Um, like I've heard stories about, you know, like they've got one Google document and students are writing something together.

[00:19:26] Interviewer: Hmm.

[00:19:27] Joyce: Um, I think I should need to push my boundaries-

[00:19:29] Interviewer: Hmm.

[00:19:29] Joyce: -and let go of more control-

[00:19:31] Interviewer: Yeah.

[00:19:32] Joyce: -because I think it's-- you know, I might not even recognize it but I think I do have that fear.

[00:19:36] Interviewer: Um, okay, um, if you could think of any efficient development, activity or mode, um, that would be the most helpful for you in your teaching, what would that be? Um, what do you think will be like the best solution for you to-

[00:19:56] Joyce: Yeah.

[00:19:56] Interviewer: -use more technology in teaching?

[00:19:58] Joyce: Um--

[00:20:01] Joyce: I think that-- like specific-- this isn't like an ideal--

[00:20:08] Interviewer: yeah, of course.

[00:20:09] Joyce: The program leader-

[00:20:11] Interviewer: Yeah.

[00:20:11] Joyce: -at the course-

[00:20:11] Interviewer: Right.

[00:20:12] Joyce: -um, presents the different kind of options and possibilities-

[00:20:17] Interviewer: Umm-hmm.

[00:20:18] Joyce: -that have worked well-

[00:20:19] Interviewer: Hmm hmm.

[00:20:19] Joyce: -for teaching this particular course, umm, and that there's like-- it's not just using technology for technology's sake, but there's a clear purpose and how you fit in it-- how using the technology-

[00:20:39] Interviewer: Hmm hmm.

[00:20:40] Joyce: -um, would fit into specific learning objectives-

[00:20:42] Interviewer: Yeah.

[00:20:43] Joyce: -and how could we incorporate it-

[00:20:43] Interviewer: Right.

[00:20:44] Joyce: -into the lesson.

[00:20:45] Interviewer: Okay, yeah, yeah. Um, so, um, what do you think of community of practice? There's lots of talk right now-

[00:20:57] Joyce: Hmm hmm.

[00:20:57] Interviewer: -we need all to be in a community of practice-

[00:20:59] Joyce: Hmm hmm.

[00:20:59] Interviewer: -to enhance our teaching skills. Um, do you think -they work, these community of practices?

[00:21:06] Joyce: Yeah, that's, um, I feel-- I don't-- I've heard that term-

[00:21:11] Interviewer: Yeah.

[00:21:12] Joyce: -and I-I heard it at the conference I went to in the US, and to me, I'm a little gun-shy of it. I feel like there are things that just happen naturally in other places, like in the US. Like people just naturally would share information and ideas, and then these ideas are tried-- they tried to implement them in Hong Kong, but it somehow becomes very bureaucratic.

[00:21:35] Interviewer: Yeah.

[00:21:36] Joyce: Like, "Okay, now you are in this community and you need to do this, this, this, this," An, it maybe doesn't end up serving you so much if it was just kind of organic.

[00:21:45] Interviewer: Right..

[00:21:46] Joyce: So, um, I'm-- I love the idea, I mean I-I like the teaching of education and making my classes better.

[00:21:56] Interviewer: Hmm.

[00:21:57] Joyce: Yeah. If I felt like engaging the community would serve that, not--you know, without taking, you know, such a time--

[00:22:04] Interviewer: Umm--

[00:22:06] Joyce: I don't know if that answers that question--

[00:22:06] Interviewer: No--yeah, it's good. Um, maybe one more. What do you think of the classrooms in Hong Kong? Are they designed appropriately-

[00:22:17] Joyce: Hmm.

[00:22:17] Interviewer: -to integrate ICT with our students in?

[00:22:21] Joyce: We have such a range of- [chuckles]

[00:22:22] Interviewer: Yeah, exactly. [laughs]

[00:22:23] Joyce: -classrooms here at PolyU. So, um, I don't have any big complaints. Well, I mean, probably it could be much better, [chuckles] you know we are a tech, you know, um, Hong Kong Polytechnic-

[00:22:34] Interviewer: Exactly.

[00:22:36] Joyce: -but, umm, I think--you know, I think it's okay. There are so many different rooms; like I was in one strange room up in R-

[00:22:48] Interviewer: Hmm.

[00:22:48] Joyce: -that had screens on like all the different walls-

[00:22:51] Interviewer: Yeah, yeah.

[00:22:52] Joyce: -and students were facing in all these different directions, and it just didn't work. I had to move the class because they were-- no one was looking at me-

[00:23:00] Interviewer: Hmm.

[00:23:00] Joyce: -when--because I wasn't needed.

[00:23:02] Interviewer: Yeah.

[00:23:02] Joyce: Again, maybe I'm very controlling.

[00:23:03] Interviewer: Yeah, yeah, yeah. Let's see, um, what do you think of EDC workshops? Um, they do offer like two times a week sometimes.

[00:23:17] Joyce: Hmm hmm.

[00:23:18] Interviewer: I mean, are they really helpful?

[00:23:22] Joyce: I think some of them are.

[00:23:23] Interviewer: Hmm.

[00:23:24] Joyce: I think it's a little bit of a mixed bag.

[00:23:25] Interviewer: Yeah.

[00:23:26] Joyce: Umm, let me think, the ones I've attended. They really have quite a range. I think they're very professionally done, I really appreciate that. Umm, I'm trying to think of particularly of any ICT ones I went to. Umm, I guess just that they have such a wide audience, maybe the way it's presented isn't so useful sometimes-

[00:23:59] Interviewer: Yeah.

[00:24:01] Joyce: -for our context.

[00:24:02] Interviewer: Hmm hmm. Um, have any PD activities changed your attitudes and beliefs integrating ICT in your teaching?

[00:24:18] Joyce: I think if I thought back five years ago-

[00:24:20] Interviewer: Hmm.

[00:24:20] Joyce: -when I first came to PolyU, probably yes-

[00:24:24] Interviewer: Hmm.

[00:24:24] Joyce: -then, you know, because I wasn't, um-- so I slowly started to learn about things, like flip quiz is another good one I use, um, and I think maybe previously, um-- I think my ideas have developed. Like at first I just thought, kind of coming from, you know, being like a little more informal language teacher, like oh, you just got to entertain the kids for a while. But, I came to see more, be more critical about my use of

it, like there has to be-- has to tie into their learning in some way. Um, it can serve both functions, it can be entertaining and enter-energizing, it can help get them engaged, but it also, um, can relate to their learning so that they improve their learning.

[00:25:16] Interviewer: Yeah. Um, do you-do you think that PolyU gives you any pressure to continue with PD? Do you feel like it's left up to you or you feel like, "Urgh, I have to attend"?

[00:25:29] Joyce: Yeah, umm, personally I don't feel pressured but I have a feeling other people probably do.

[00:25:40] Interviewer: Hmm.

[00:25:41] Joyce: My philosophy has always been, "I'm just gonna do the best I can and if it's not good enough they can fire me." [chuckles] Whereas other people are a little bit more like calculating like-

[00:25:50] Interviewer: Yeah.

[00:25:50] Joyce: -"Oh, I need to do this, this so I can show them my appraisal," bla bla bla bla.

[00:25:54] Interviewer: Right.

[00:25:54] Joyce: And, you know, I hear people talking, "Oh, there's going to be restructuring in two years, you know, people are, you know-you gotta, you know-you gotta really boost your resume."

[00:26:02] Interviewer: Hmm.

[00:26:02] Joyce: I just-- I-I've always been just more like intuitively motivated like-

[00:26:06] Interviewer: Hmm.

[00:26:07] Joyce: -do what I enjoy doing. So, um, personally I don't feel pressured but-

[00:26:12] Interviewer: Yeah.

[00:26:13] Joyce: -I think maybe other people do.

[00:26:14] Interviewer:

[00:26:20] Joyce: Alright.

[00:26:20] Interviewer: Hmm.

[00:26:21] Joyce: I hope that was helpful.

[00:26:22] Interviewer: Yes, thank you so much.

[00:26:23] [END OF AUDIO]

Appendix 6. Manual coding sample

[00:02:26] **Interviewer:** Yeah. All right. So, in terms of these modes that you mentioned which ones do you think is more suitable for you or will better help you to advance your skills?

[00:02:39] **Jason:** I find it-- I find it useful to, um, to-to go to conferences-

[00:02:45] **Interviewer:** Okay.

[00:02:46] **Jason:** because you get to, you know, share your ideas with other people, you know, that give you feedback and, uh, you also get to know what other people are doing in their own context. So, there's a lot to be learned uh, you know, in the conferences.

[00:03:02] **Interviewer:** thanks, let's come back to conferences a bit later. Now, is there any type of mode you think is not very useful?

[00:03:10] **Jason:** Um, I wouldn't say not useful, I mean, action research for instance, um, you know, usually, you know, when-when you identify a problem in class, you know, and you decided, you know, and you decided to do something about it, um, I find that quite useful too. Um, 'cause you-'cause you-'cause you get to, um, sort of fix the problem, so to speak.

[00:03:36] **Interviewer:** I see. How do you feel about reading professional literature in ICT?

[00:03:41] **Jason:** Um, perhaps not as useful as, uh, going to conferences, um, but I think it's still a good idea 'cause most-- obviously most [unintelligible 00:03:53] theoretical um, whereas if you want practical ideas, then, um, you know, going to someone's talk might be more useful.

[00:04:04] **Interviewer:** And the two, three papers you presented or wrote-

[00:04:07] **Jason:** Yeah.

[00:04:08] **Interviewer:** what were they about?

[00:04:14] **Jason:** Yeah, it was quite a while ago actually. Um, when we first use, um, blackboards, um, nobody knew ho-how to go about it and I was still in my MA at the time. So, I was able to, um, you know, incorporate some, um, online tasks, um, to, uh, sort of help students with their EAP module. Okay, and, uh, I try to make it, um, interactive, you know, um.

I'm also-- that's-that's also when, um, lot of learnings became trendy. Um, so we decided to move some content, you know, some face-to-face content online and, um, so that was-- I mean, I can give you an example. One task was uh, peer evaluation. Um, so students, where we asked students to upload their essays onto blackboards and assign them a partner so that they could, um, read each other essay and give feedback. Um, so that worked quite well and later on I-I wrote that paper.

[00:05:26] **Interviewer:** Okay, right. Uh, in terms of this institution, are you aware of any policy regarding PD relation to ICT?

[00:05:36] **Jason:** Um, well I mean there are workshops that we could go to. Um, also sharing, you know, sessions even by colleagues, you know, who might have done, um, something innovative with um, technology.

[00:05:58] **Interviewer:** Uh, and is there any budget for this if you wanted to participate in any PD? Is there any budget available? Any funding?

[00:06:08] **Jason:** Um, I think there's a- there's a $11,000 a year that you could, um, spend at whatever you like. For PD, you could do a degree, you could do conferences, you could even take a course, yeah-

[00:06:26] **Interviewer:** Yeah.

[00:06:27] **Jason:** - whether, you know, in ICT or-

[00:06:29] **Interviewer:** Right.

[00:06:29] **Jason:** - or other ones.

[00:06:30] **Interviewer:** Yeah.

[00:06:31] **Jason:** Yeah.

[00:06:32] **Interviewer:** Um, is it very common at your institution for instructors to have PD in ICT? Like are they targeting particularly ICT in the professional development?

[00:06:47] **Jason:** Yeah. *Targeting PD*

[00:06:47] **Interviewer:** are instructors are targeted to attend PD in ICT?

[00:06:52] **Jason:** Um, well, they strongly encouraged.

[00:06:55] **Interviewer:** Yeah?

[00:06:56] **Jason:** Yeah, but I don't think it's compulsory.

[00:06:58] **Interviewer:** No. Do you think anyone feels any pressure that they should go to a session?

[00:07:03] **Jason:** I don't think we are pressured to go when we don't want to.

[00:07:07] **Interviewer:** Mm-hmm. *pressure?*

[00:07:07] **Jason:** Um, but we are strongly encouraged to just, um, yeah.

[00:07:14] **Interviewer:** Mm-hmm. *no choice*

[00:07:15] **Jason:** That's how things are.

encouraged but not pressure - not compulsory

how things are = implies need to attend.

253

Appendix 7. Initial codes identified from interviews

No	Topic	Themes	Categories
1	PD Activities	Formal:	Conferences Workshops Seminars Sharing sessions Book club Special Interest Group Reading academic journals Google camp Pursuing higher studies
		Informal:	Reading blogs LinkedIn Informal chats Informal mentoring
2	PD Activity Action research	Action research experiences	Takes too long Not interested in research Can be helpful to understand why something didn't work
3	PD Activity Conferences, workshops, seminars	Experiences	Certificate Learn, share and receive feedback Get to know other people Lot to be learned from experienced all over Can relax at conferences and enjoy
4	PD Activity Reading professional literature	Reading professional literature Experiences	Everything starts from reading, Great initial ideas, good way to keep up to date Limited practical ideas
5	PD Activity Sharing good teaching practice	Sharing good teaching practice experiences	Exchanging and discussing ideas, Informal, no judging Best way to learn to use something new
6	PD Activity Participating in a network of teachers	Participating in a network of teachers Experiences	Very bureaucratic, Colleagues might not want to share
7	PD Activities Reasons for attending	Personal Development:	Learn to use a new tool/skill Improve existing skills Curious Jazz up teaching Pursuing higher studies

		Professional growth:	Institutional needs
8	PD Activities experiences	Positive Experiences	Hands-on, Practical Extra activities to be used Can follow along, step-by-step Learned and shared from colleagues
		Negative Experiences	Presenter not a teacher, an IT technician Not organised well, running out of time, or too short, Not following the abstract Talking into the microphone, no engagement Research presentation
9	Pressure	Institutional	Appraisal, Contract Renewal, tied to salary Innovations in teaching Required to incorporate ICT in our teaching
		Peer pressure	To keep up with colleagues, not to appear old and out of date
		Student pressure	Students expectations, class more fun and stimulating
10	PD Policy	Expectations	Expected to attend Not mandatory, but strongly encouraged Constant emails sent to encourage attendance
11	Type of ICT used	Websites / Apps:	Kahoot! Padlet Google OneDrive Clickers Remind
		LMS/VLE:	Blackboard Moodle Canvas
12	Motivation	Freebies:	Free snacks Free lunch
		Pressure:	Pressure from Department / Centre Management /Pressure from eLearning coordinator / email Strongly encouraged to attend Appraisal, performance evaluation
		Evaluative:	Appraisal, performance evaluation, Certificate, Appraisal, Contract Renewal

		Other:	Fun, try / learn something new, curious
13	ICT with students	Benefits:	Promote student engagement Student expectations Makes the lesson more entertaining Energising / perk up students Understand content better Teaching easier
		Shortcomings:	Difficult to control, students on different website Might not work Face-threatening, look stupid in front of students Old equipment in the classrooms Require more thinking No freedom
14	Challenges to ICT Integration	Tension	Limited time to learn something new Time is tight, barely enough time to teach No time to prepare nor attend sessions Limited functions as an instructor on Blackboard, don't have admin rights
16	PD budget	Institutional: Personal:	Annual grant, Used for conferences, further studies Often limited amount, only covers 1 conference a year Spend on money to attend
17	Teacher skills	Technical: Attitudes and beliefs:	Basic computer skills iOS and Android knowledge Confident Willingness Open mindset
18	Suggestive Solutions	Autonomy: Mandatory: Technical: Other:	Allow teachers to decide Don't push/pressure Not mandatory Professional freedom Should be regular, mandatory Blended PD Webinars Step-by-step practical training, Follow-up activities, implementation should be systematic

19	Threats to job satisfaction	Negative Factors	Negative images Teacher burnout, Ignoring teachers' voices Continuous change Lack of time to learn and develop Top-down Negative annual performance and appraisal review
20	Effect of environment	Negative context	Demoralization to the teachers Frustration Silence during PD sessions, don't want to look ignorant in front of colleagues
21	Issues surrounding PD	Internalization	Continuous change Disregard for classroom realities
		Top-down	Top-down Lack of professional autonomy Ignoring teacher's voices

Appendix 8. Final Themes and categories

No.	Themes	Categories	N	Research Focus
1	Formal Professional Development	Conferences, in-house PD/workshops, sharing sessions, action research, community of practice	12	Engagement in PD activities ICT skills (RQ1)
2	Informal PD	Reading professional literature	9	Engagement in PD activities ICT skills (RQ1)
3	Institutional Pressure	Lack of voice and autonomy, top-down	8	Engagement in PD activities ICT skills (RQ1)
4	Instructor agency	Attitudes and beliefs	9	Attitudes and beliefs – modes of PD/ICT – enhancing teaching (RQ2)
5	Motivations for participation	Freebies, continuous learning, pressure	10	Attitudes and beliefs – modes of PD/ICT – enhancing teaching (RQ2)
6	Integration	Student engagement, teacher engagement	12	Attitudes and beliefs – integrating ICT (RQ3)
7	Teacher Skills	Feeling overwhelmed by technology, computer skills, confidence to teach	9	Attitudes and beliefs – integrating ICT (RQ3)
8	Practical Application	Discussing with colleagues	11	Usefulness of PD Activities – attitudes and beliefs – integrating ICT (RQ 4)
9	PD Interactivity	Practical experience	11	Usefulness of PD Activities – attitudes and beliefs – integrating ICT (RQ 4

Appendix 9. Certificate of ethical research approval

GRADUATE SCHOOL OF EDUCATION

St Luke's Campus
Heavitree Road
Exeter UK EX1 2LU

http://socialsciences.exeter.ac.uk/education/

CERTIFICATE OF ETHICAL APPROVAL

Title of Project: PD 3.0 Educational Technology in Language Teaching at the tertiary
level in Hong Kong, influences and implications for future adoption

Researcher(s) name: Lucas Kohnke

Supervisor(s):   Li Li

This project has been approved for the period

From: 01/07/2017
To: 13/07/2021

Ethics Committee approval reference:

D/16/17/47

Signature: Date: 08/06/2017
(Dr Philip Durrant, Graduate School of Education Ethics Officer)

Appendix 10. Consent form

UNIVERSITY OF EXETER

GRADUATE SCHOOL OF EDUCATION

Title of Research Project: *"PD 3.0 Educational Technology in Language Teaching at the tertiary level in Hong Kong, influences and implications for future adoption"*

CONSENT FORM

I have been fully informed about the aims and purposes of the project.

I understand that:

> there is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation and may also request that my data be destroyed
>
> I have the right to refuse permission for the publication of any information about me
>
> any information which I give will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations
>
> if applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form
>
> all information I give will be treated as confidential
>
> the researcher(s) will make every effort to preserve my anonymity

.......................…………………..   ....
(Signature of participant)   (Date)

…………………….
(Printed name of participant)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher(s)

Contact phone number of researcher(s): Lucas Kohnke ▮▮▮▮▮▮▮▮

If you have any concerns about the project that you would like to discuss, please contact:

Dr Li Li, Li.Li@exeter.ac.uk Graduate School of Education, Exeter University, UK

* when research takes place in a school, the right to withdraw from the research does NOT usually mean that pupils or students may withdraw from lessons in which the research takes place

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.