THE USE OF ICT IN TEACHING LANGUAGES IN VICTORIAN PRIMARY SCHOOLS: TWO CASE STUDIES

A thesis submitted in fulfilment of the requirements for the degree of Master of Education

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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GLOSSARY

ACARA: Australian Curriculum, Assessment and Reporting Authority

AusVELS (formerly VELS): Australian Curriculum in Victorian Essential Learning Standards

DEECD: Department of Education and Early Childhood Development

DET (formerly DEECD): Department of Education and Training

DEETYA: Department of Education Employment Training and Youth Affairs

ICT: information and communication technologies

Languages (with capital "L"; formerly LOTE): the term used in schools to refer to the teaching of a language other than English.

LOTE: Language Other Than English

MCEECDYA: Ministerial Council for Education, Early Childhood Development and Youth Affairs is now the Standing Council on School Education and Early Childhood

MCEETYA: the Ministerial Council of Education, Employment, Training and Youth Affairs - a committee comprising all State, Territory, Australian Government and New Zealand Ministers with responsibility for the portfolios of school education, early childhood development and youth affairs

VCAA: Victoria Curriculum and Assessment Authority

VELS: Victorian Essential Learning Standards
ABSTRACT

This study investigates how two Languages teachers in two different Victorian primary schools use ICT in their practice. In recent years, there have been a number of government policies and initiatives regarding the teaching of Languages and increased recognition of the importance of Languages education in schools. At the same time, the Victorian government has been placing more emphasis on the use of ICT in all subjects, including in Languages education. Although there has been considerable research around the use of ICT in teaching foreign languages globally, research in primary education contexts is still limited. Previous research has suggested that the benefits of using ICT in language teaching is inconclusive, and that there are numerous factors that affect this use. This study aims to add to this research, by exploring the use of ICT in teaching Languages in a Victorian primary school context.

This study is framed by a qualitative research approach. It employs a case study method to develop richer understandings of how two Languages teachers used ICT in their practice. Data for these case studies was collected from surveys, artefacts, observations and semi-structured interviews, and then analyzed to reveal key themes.

The findings reveal that the participants had positive views on the use of ICT in teaching Languages and considered it as a fun and engaging tool to develop students’ different language skills such as writing, listening, speaking and vocabulary. However, there were also a number of factors that affected their daily use of ICT in their practice, these being various accesses to technologies, professional development and parental involvement. This study confirms many of the findings suggested in previous research around the use of ICT in
education. However, it also adds to this research by suggesting that parental involvement plays a key role in teachers’ use of ICT because it restricts their ICT uses in some cases.

Keywords: Languages education, teachers, language teaching, Information and Communication Technologies, the use of ICT, Victorian primary schools.
Chapter 1: INTRODUCTION

This chapter provides an introduction to the study. It begins with a background section that explores the significant changes that have been occurring at national and state level relating to Languages teaching and the use of ICT, and some of the factors that influence teachers’ use of ICT in their practice. It also introduces the schools where this study is set. It then describes the rationale for this study, the research questions that were used and the significance of the study. Finally, the chapter provides an overview of the thesis so as to orientate the reader to the study.

1.1 Background of the Study

1.1.1 Policies and curriculum landscape.

From the early 1980s Australia has been a leading country in the English-speaking world in systematic language policy-making (Ingram, 2000). In 1987 the Federal government adopted the first national policy on Languages, which was also the first multilingual language policy in an English-speaking country (Lo Bianco, 2009), and the teaching of Languages became much more of a national priority. In The Melbourne Declaration in 2008, the national and state education ministers identified India, China and other Asian nations as the countries with whom Australia had the strongest relationships. A new goal, Goal 2, was produced stating that young Australians should have the skills to not only communicate within and across its linguistically and culturally diverse society but also to be able to communicate in an increasingly interconnected global world, especially with the cultures and countries of Asia (MCEETYA, 2008). Thus, there has been an increasing recognition of the importance of Languages education in schools.
In the past, the teaching of Languages in Victoria was an optional subject. However, it has now become a compulsory subject for all students in P–10 (Preparatory Year to Year 10, or the fourth year of secondary school), beginning with Prep students in 2015 and extending to Year 10 by 2025 (Australian Education Union, 2011).

There has also been significant change to the curriculum in Australia with the recent development of a national curriculum, which is being phased in over a period of time. Within this framework, the Draft Shape of the Australian Curriculum: Languages was written in January 2011 by the Australian Curriculum, Assessment and Reporting Authority (ACARA). This document emphasized the importance of having Languages as one of the key learning areas, arguing that Australia has a unique and dynamic migration history (ACARA, 2011). Currently, the Australian Languages Curriculum is waiting for final endorsement; however, curricula for most languages are already available online for use (ACARA, 2013a)

Currently in Victoria, Languages teachers use the Australian Curriculum in Victorian Essential Learning Standards (AusVELS), Victoria’s version of the Australian curriculum as it relates to Victoria, as their guiding curriculum framework. The State Languages curriculum allows students to develop communication skills and knowledge of the language they learn and use that as a platform to understand social, historical, familial relationships and other aspects of that language and culture of the speakers of the language they are learning. During this period of great change, Victorian schools are facing many challenges, including how to ensure that there are enough Languages specialist teachers to deliver the curriculum and whether Languages teachers know about and can successfully implement the new curriculum.

At the same time, there has also been a considerable shift in the ICT policy landscape. Whereas in the Hobart Declaration in 1989, ICT was referred to as computing, and as a generalised skill, by the Adelaide Declaration in 1998, goal 1.6 stipulated that all students
need to leave school “being creative and productive users of technologies”. In The Melbourne Declaration of Educational Goals for Young Australians, ICT is now positioned as “a foundation for success in all learning areas” (MCEETYA, 2008, p. 8).

At state level, in Victoria, ICT has been implemented in schools since the mid-1990s. Initially a subject specialism, usually undertaken at senior levels of schooling, ICT has become integral to all subjects. Within the AusVELS curriculum, ICT is included as part of the Interdisciplinary domain along with Communication, Design – Creativity and Technology, Thinking Processes. With the current development of the Australian curriculum, ICT is now positioned similarly, as a General Capability that all students should know, and be able to apply to their practice. Thus all teachers in Australia are now expected to embed ICT in their practice, and they are required to be able to assess students’ knowledge of particular ICT standards. A key question then is whether Languages teachers have the knowledge and skill to be able to use ICT in their practice, and so comply with recent policy initiatives.

In Victorian schools a range of languages is taught. In 2011 there were 16 languages taught, with the eight most widely taught being Italian, Japanese, Indonesian, French, Chinese (Mandarin), German, Auslan and Spanish (DEECD, 2012b). In the two schools used in this study, Mandarin and Indonesian were taught.

In Victorian schools, there has been considerable expenditure on providing teachers and students with access to ICT. The vast majority of schools have broadband access as well as access to other technology applications. All students are expected to have access to computer devices. However, there is considerable difference in the level of access that schools have. In 2010, the Department of Education and Training (DET) (formerly the Department of Education and Early Childhood Development (DEECD)) conducted a trial of netbooks,
which funded 10,000 netbook devices worth $6.2 million to primary school students in regional and low socio-economic areas. Later, DET also implemented a 1:1 program across Victorian government schools (DEECD, 2010b) including the iPad for Learning Trial. Both of these trials have gained exceptionally positive feedback from both teachers and students.

1.1.2 The use of ICT in language teaching.

Research has shown that using ICT in language teaching is complex. There has been considerable research on how ICT has been used in teaching foreign languages and the common applications used in language classrooms. There has been some evidence that suggests that using ICT in teaching languages is effective and can have positive outcomes. Some of these benefits relate to developing several language skills such as vocabulary, grammar, pronunciation, and writing skills as well as promoting the learner's attitude and learning behaviour. Zhao (2003), however, questioned the generalizability of the findings. A large part of the literature suggests that technology has been used in language teaching only as a means of providing more effective learning and teaching in developing different language skills, it does not replace good pedagogy. The main conclusion from recent literature is that the technology might strengthen the pedagogy only if the teachers and students engaged with it and understood its potential in such a way that the technology is not seen solely as an end in itself but as another pedagogical means to achieve teaching and learning goals (Macaro, Handley & Walter, 2012; Stockwell, 2007).

1.1.3 Complexity in using ICT.

Research has shown that using ICT in practice is not simple, and that there are a number of factors that can impact on teacher decision-making. Often when researchers seek to explore this broad question, they have tended to categorise these factors as either barriers to teachers’ use of ICT or enabling factors to teachers’ use of ICT (Jones, 2004). This research, while not
specific to Languages teachers, has investigated some of the factors that affect teachers’ use of ICT in their classrooms. Ertmer (1999), for example, suggests that there are two categories of barriers, first-order barriers and second-order barriers. First-order barriers are those that are extrinsic to teachers and relate to the physical ICT environment, including connectivity and the availability of technology; and second-order barriers are those that are intrinsic to teachers, including ICT competency and pedagogical approaches to the use of ICT (Ertmer, 1999). Hew and Brush (2007), on the other hand, argue that there are six categories: resources, knowledge and skills, institution, attitudes and beliefs, assessment, and subject culture.

Selwyn (2007) argues that although there has been considerable research around technology and education, researchers have arguably sidestepped or oversimplified the barriers that can impact on teacher practice. He suggests that research has been focusing on whether technology works rather than focusing on other elements that can impact. White (2013) in his extended paper version of a presentation given to the Australian Council for Educational Research (ACER) argues that while there has been a lot of hype about the use of technology in schools, there has been a lack of vigorous research. He considers a number of successes and failures, suggesting the importance of national collaboration through efforts such as the development of online portals, services and resources. Despite these efforts to encourage the uptake of technologies, the focus has been on technical infrastructure rather than on research on how to successfully integrate the technologies into education. And that for him is “three steps forward and two back” (White, 2013, p. 13).

1.2 Rationale for the Study

The main rationale for this study is to better understand how Languages teachers are using ICT in their routine classroom practice. Though there has been considerable research around
foreign language teachers’ use of ICT more broadly, much of this has focused on adult learners rather than teachers in school contexts. Though all teachers in Victoria are expected to embed ICT in all subjects, there has not been much research around how Languages teachers specifically do so.

Researchers usually have some notion of what they want to do when they begin to conceptualise a study (Miles & Huberman, 1994). I was an English teacher in Vietnam for a year. While I had only taught for a year, I was cognizant that teachers generally seemed to be having difficulty working out how to use ICT in their classrooms, particularly those that were readily accessible. I saw first-hand some of these challenges. In addition, professional experience in schools as part of my Teacher Education in Australia, got me thinking further about some of the challenges that teachers faced. During that time, I was always interested in finding out whether the school provided Languages education and if they did, how the Languages teacher delivered their lessons. I was also concerned that teachers did not seem to be fully aware of recent government policies and initiatives regarding the teaching of Languages and the use of ICT. I knew that the Victorian government was placing more emphasis on the study of Languages in schools and that for the most part these targets had not been met. This sparked my interest to investigate this further and to try to understand some of the challenges that teachers were facing, which contributed to their use of ICT in the classroom.

As a researcher, I was looking for the complexity of teacher practice rather than narrowing meanings into a few categories or ideas. I wanted to capture different experiences and perspectives of Languages teachers through open-ended interviews and observations; and to then consider the implications of these perspectives rather than to evaluate which set of perceptions is "right" or "more true" or "more real" (Patton, 2002, p. 96).
1.3 Research Questions

The study is guided by the following research questions:

- How are teachers using ICT in the primary Languages classroom?
- What common ICT applications are being used and for what reasons?
- What barriers and enablers act to shape primary Language teachers’ use of ICT?

1.4 Overview of the Research Method

As will be explained in further detail in Chapter Three, a qualitative approach framed this study to develop richer understandings of how Languages teachers used ICT in their practice. It is a small-scale study, involving only two primary Languages teachers who taught at two different primary schools, Prism Primary School and Delta Primary School. The study used a survey to gather demographic information about the two participants as well as their general ICT knowledge and skill levels, a number of observations of these teachers teaching were carried out using an Observation Schedule, and then a single interview using closed and open questioning with each teacher focused on their general views about using ICT, and the reasons for their use of ICT in their practice. After data was collected it was then transcribed, followed by data analysis.

1.5 Significance of the Study

The study is important for several reasons. First, the study contributes to the broad field of research around ICT in school contexts. Second, it contributes to research specifically around Languages teachers’ use of ICT in primary school settings. Third, through its case study approach and use of survey, observations and interview, it captures the voices of the participants, and provides a more detailed description of their practice. It is likely that because this study documents and provides insights into teachers’ views, it can impact on
other Languages teachers’ practice in similar contexts. In particular, as it presents teachers’ views, it can help inform the further development and implementation of ICT in Victorian schools. Finally, by providing a picture of Languages teachers’ use of ICT in their practice, it may assist policy-makers as they seek to answer questions regarding the effectiveness and suitability of the use of ICT in the Victorian primary school context.

1.6 Thesis Overview

This thesis consists of six chapters and eight appendices.

Chapter One introduces the study, and explores its background, so as to orientate the reader to the study that follows. This chapter also describes the rationale for the study, as well as the specific research questions, and the research contribution. Finally, it provides the overview of the organization of this thesis.

Chapter Two reviews relevant literature that informs this study. It has three parts. The first part examines the national and state policy contexts around Languages and ICT that form the backdrop to this study. The second part considers research around the use of ICT in teaching language in general, and common ICT applications used in the language classroom. The third part explores some of the complexities in teacher adoption of ICT, including the barriers and enablers reported in research.

Chapter Three describes the research processes used in this study. It is divided into three main parts. The first part explores the researcher’s world view that frames this study. The second part discusses the research design, including the choice of case study. In the third section, data collection and analysis methods are reported, including the choice of survey, observation and interview, as well as limitations of this study.
Chapter Four reports the findings of the study in response to the research questions presented in Chapter One and in the form of two case studies. Each case study introduces the teacher and her school context, including its Languages and ICT contexts. It then explores expectations of using ICT in the Languages classroom and then actual experiences.

Chapter Five discusses the findings of the study. It suggests that the study adds to our existing knowledge of how teachers use ICT in a number of ways.

Chapter Six concludes the study and discusses its implications, including implications for further research.

1.7 Chapter Summary

This chapter has introduced the reader to the study and to the broad ideas, including the national and state policy context, which inform it. It has also presented the research questions that framed the development of the study, and the specific research design. Finally, this chapter provides an overview of the thesis. The next chapter reviews research that influences this study.

Note to readers:

1. Throughout this thesis spelling of the word languages sometimes with a lower case l and other times with an upper case L is deliberate. When the word language (lower case l) is used, it refers to the teaching of foreign languages. When the word Languages (upper case L) is used, it refers to the subject Languages taught in schools in Victoria.

2. The name of the Victorian Education Department has recently changed from the Department of Education and Early Childhood Development (DEECD) to the
Department of Education and Training (DET). The more recent title DET has been used in this thesis. However, in some parts of the thesis, the title DEECD is used when referring to documents produced when this title was current.

3. The policies discussed in this thesis were current at the time of writing. Since then, there might have been changes or up-dates.
Chapter 2: LITERATURE REVIEW

This chapter reviews literature relevant to the topic as a means to frame and guide this study of Languages teachers’ use of ICT. It is divided into three parts. The first part reviews national and state policies and curriculum frameworks relating to Languages and ICT from the 1980s to the present day. Discussion focuses on the development of the Australian curriculum and the place of Languages within it, as well as the requirements that the Victorian Department of Education has for Languages teachers regarding the integration of ICT into their teaching and some initiatives from the government in supporting this integration. The second part analyses recent literature regarding the use of ICT in language teaching and learning. Finally in the third part, the chapter reviews literature relating to barriers and enablers to teacher use of ICT, as a means of foregrounding the discussion of the case studies in Chapter Four.

2.1 Policies and Curriculum Frameworks for Languages and ICT

In this part of the chapter I explore national and state polices relating to Languages, ICT, and curriculum as these form a backdrop to this study. For procedural ease I divide this discussion into two sections. The first section is concerned with national Languages policies produced by MCEECDYA, including the national goals for schooling (from Hobart in 1989, to Adelaide in 1999 and then Melbourne in 2008), and the National Plan for Languages Education in Australian Schools 2005-2008. I then turn to national ICT polices, focusing on MCEETYA’s Learning in an Online World policy and suite of statements. This is followed by discussion of the newly developing Australian curriculum. In the second section I am concerned with state polices. I begin by exploring the requirements of Victorian government for schools regarding Languages education and its initiatives to support schools, then the ICT
policy with the issue of the Digital Learning Statement and then the newly implemented state curriculum in light of the Australian curriculum, AusVELS.

2.1.1 National Languages policies.

From the early 1980s Australia has been a leading country in the English-speaking world in systematic language policy-making (Ingram, 2000). Most of the national Languages policy documents have been produced by MCEETYA, the Ministerial Council of Education, Employment, Training and Youth Affairs. This committee comprises all state, territory, Australian government and New Zealand ministers with responsibility for the portfolios of school education, early childhood development and youth affairs (MCEETYA, 2013).

In 1987 the Federal government adopted the first national policy on Languages, which was also the first multilingual language policy in an English-speaking country (Lo Bianco, 2009). Consideration of Languages was also included in the national goals of schooling, which provide general directions to guide schools and education authorities, as set by the ministers every ten years. In 1989, in what is termed The Hobart Declaration on Schooling, Goal 6.g stipulated that all students should “develop a knowledge of languages Other Than English” (MCEECDYA, 1989, p. 11). In 1999, as part of The Adelaide Declaration, Languages was identified as one of the key learning areas. Goal 3.5 stipulated that “all students understand and acknowledge the value of cultural and linguistic diversity, and possess the knowledge, skills and understanding to contribute to, and benefit from, such diversity in the Australian community and internationally” (MCEECDYA, 1999, p. 4). The most recent meeting was held in Melbourne in 2008 (MCEETYA, 2008). In this policy, the ministers identified India, China and other Asian nations as the countries Australia had strongest relationships with. A new goal, Goal 2, was produced stating that young Australians should have the skills to not only communicate within and across its linguistically and culturally diverse society but also
to be able to communicate in an increasingly interconnected global world, especially with the cultures and countries of Asia (MCEETYA, 2008).

MCEETYA has also been responsible for conducting reviews into the provision of Language in Australian schools. In 2003 the Ministers commissioned the Review of Languages Education in Australian Schools (MCEETYA, 2005c). This review concluded that:

- Approximately 50% of students were learning a language in mainstream schools.
- 164 languages were being taught in both mainstream and non-mainstream schools.
- Six languages were most commonly taught. These were, in order of enrolment numbers: Japanese, Italian, Indonesian, French, German and Chinese. More than 90% of language learners were learning one of these languages (p. 4).

The Review also identified a number of challenges, including:

- The need for appropriately qualified and trained teachers
- Continuity in language learning in schools, and from primary to secondary levels and beyond
- Adequate time allocations
- Supportive timetabling practices
- Resourcing
- Whole school commitment

The Review of Languages Education in Australian Schools was also produced to function as a guideline for developing the National Plan for Languages Education in Australian Schools 2005-2008, an overarching framework for State, Territory and Australian Government activities (MCEETYA, 2005c). In the National Plan, the ministers wanted to develop strategies to strengthen and promote the quality of teaching and learning Languages, so that
all Australian students could have the opportunity to gain high level outcomes in Languages learning (MCEETYA, 2005). In addition, the ministers wanted to promote Languages education so that the community could develop more positive attitudes to Languages learning, and also addressed the challenge of how best to further integrate quality Languages education into the mainstream curriculum.

The National Plan (MCEETYA, 2005) focuses on six nationally agreed inter-dependent strategic areas, these are:

- Strand one: Teaching and Learning
- Strand two: Teacher Supply and Retention
- Strand three: Professional Learning
- Strand four: Program Development
- Strand five: Quality Assurance
- Strand six: Advocacy and Promotion of Languages Learning

Since 2008, MCEETYA, while not producing a new plan has extended the old one, with the subsequent four-year plan 2009–2012 (MCEECDYA, 2009) for Australian schooling serving as a companion document to the national goals for schooling produced in Melbourne. This four-year plan outlines several key strategies and initiatives including promoting the study of Languages and cultures (especially Asian languages and Asian studies), the development of a National Asian Languages and Studies in School Program, and providing access to computers, online tools and resources, and teaching expertise in using information and communication technologies to support languages teaching and learning (MCEECDYA, 2009).

As has been illustrated in the previous discussion, the role of Languages in national policy has shifted sharply from the late 1980s, when it was included as an idea, to the early 20th
century, when it is positioned as vital to Australia’s communication in a global world, and relationships with Asia. It has also shown that teachers are perceived as very important in achieving these goals. Discussion now turns to exploring Victorian state polices.

2.1.2 Victorian Languages policies.

Victoria has the highest participation rate in Languages education of any state or territory in Australia (DEECD, 2012a). According to the Victorian Government’s Vision for Languages Education:

> Languages education offers significant benefits for Victorian students, their families and communities. At school, it helps our children and young people to develop their first language literacy, problem solving, intercultural and communication skills, it equips them for a wide range of careers. More broadly, it contributes to social cohesion, underpins Victoria's increasingly globalised and export-oriented economy and enables speakers of the languages to maintain or reclaim their languages. (DEECD, 2011c, p. 4)

A diverse range of languages is taught in Victoria. In 2011 there were 16 languages taught, with the eight most widely taught being Italian, Japanese, Indonesian, French, Chinese (Mandarin), German, Auslan and Spanish (DEECD, 2012b). There has been a constant decrease in the number of schools providing languages education between 2005 and 2011 (DEECD, 2008: 2012b), leading to a decline of 30.1%. In 2011, 64.5% of the 1,210 primary government schools provided some form of a Languages program.

The Department of Education and Training (DET) (formerly the Department of Education and Early Childhood Development (DEECD)) recommends that all government schools from Prep to Year 10 (fourth year of secondary school) should provide a minimum of 150 minutes per week for Languages programs (DEECD, 2012a). However, in practice some schools do
not offer Languages programs at all and for those that do, the time allotted ranges from 15 minutes to 420 minutes per week, with an average of 55.3 minutes per week. Only 0.5% meets the recommended target (DEECD, 2012b).

Recently, the Victorian government advocated compulsory study of Languages for all students in P–10 (preparatory year to Year 10, or the fourth year of secondary school), beginning with Prep students in 2015 and extending to Year 10 by 2025 (Australian Education Union, 2011).

Several initiatives have been implemented to support this policy including:

- A Sister School Program (to enable students to immerse themselves in another language with students who speak that language)
- Languages Scholarships (to support undergraduate and qualified teachers to study languages to become qualified language teachers)
- Languages Start Up Program (to support schools to provide languages education programs for the first time).

Thus, likewise at the state level there has been a shift in policy regarding languages. Whereas in the past, policy documents recommended the study of Languages in schools, and advocated a recommended period of study each week, policy now advocates the mandatory study of Languages in Victorian schools. In the ensuing paragraphs I turn attention to consideration of the ICT policy landscape.

2.1.3 National ICT policies.

It was in 1989, as part of the goals of the Hobart Declaration, that ICT, or computing as it was termed then, was first included as part of the national education agenda. Goal 6.d stipulated that students needed “skills of information processing and computing”
Some ten years later, as part of the Adelaide Declaration, this goal shifted in focus, with Goal 1.6 requiring students to now “be confident, creative and productive users of new technologies, particularly information communication technologies, and understand the impact of those technologies on society” (MCEECDYA, 1999, p. 3).

Today, The Melbourne Declaration of Educational Goals for Young Australian associates ICT as a part of a successful learner (MCEETYA, 2008), stating that ICT is “a foundation for success in all learning areas” (MCEETYA, 2008, p. 8).

In response to Goal 1.6 produced as part of the Adelaide Declaration, MCEETYA developed the policy “Learning in an online world: The school education action plan for the information economy” (MCEETYA, 2000), which became the overarching framework for the national ICT vision in school education. A number of strategies and action plans were subsequently developed. These included the “Bandwidth Action Plan” (MCEETYA, 2003) in 2003, and the “Pedagogy Strategy” (MCEETYA, 2005a) in 2005, and “Contemporary Learning” (MCEETYA, 2005b) in 2005.

In these policies teachers were identified as being important to their realization. In the Pedagogy Strategy, for example, it suggests that teachers need to use effective pedagogies to ensure benefits to student learning. It suggests various dimensions in which teachers can integrate ICT. These are:

- Exploring and experimenting
- Thinking and working creatively
- Reflecting and planning
- Using feedback and self-assessment
- Creating new knowledge
• Communicating with others

• Working interactively with local and global learning communities.

Along with the Pedagogy Strategy, the Melbourne Declaration also recognized the teachers’ role as one of “fundamental importance” (MCEETYA, 2008, p. 11) to its success. It suggests that a good teacher can transform students’ lives by giving them inspiration to learn and to be better citizens. It asserts that school principals and school leaders also have a role to play in supporting teachers and guiding them to find the best ways to facilitate learning using ICT.

2.1.4 Victorian ICT policies.

Until the early 1990s the role of ICT in Victorian schools was not systematic, being confined to a small number of computing classes in the senior years of secondary schooling. In 1994, however, the Victorian department of education released The Smith Report, which became Victoria’s default computer policy (DEETYA, 1997; Lankshear, Snyder & Green, 2000). The Smith Report recommended that all teachers in Victoria should have computer skills and the training to develop these skills (DEETYA, 1997). The Classrooms of the Future initiative was developed in response to The Smith Report (DEETYA, 1997). Launched in October 1995, it was the beginning of full-scale state-wide ICT implementation.

From 2010, the Digital Learning Statement has served as the main policy document relating to ICT in Victorian schools. This policy has three key strategies, these being:

• Anywhere, anytime access: which focuses on the Ultranet and wireless upgrade to ensure that teachers and students have access to their learning space easily and effectively.
• Advancing teaching practice: which focuses on providing professional development to both schools’ leaders and teachers as they are considered as “a key driver of school and system transformation” (DEECD, 2010a, p. 18)

• Quality resources, tools and data: the Victorian government has invested greatly in a broad range of online learning resources and tools to ensure that teachers and students have information and resources whenever they need.

“Anywhere, anytime access” strategy has provided Victorian teachers and students with exceptional access to technologies through the development of the Netbook Trial (DEECD, 2010a). In this trial, the Victorian government funded 10,000 netbook devices worth $6.2 million to primary school students in regional and low socio-economic areas. This significantly influenced Victorian government schools’ average computer to student ratio to one computer for every 2.68 students in 2010 (DEECD, 2010a).

To support Digital Learning, DET also implemented 1:1 program across Victorian government schools (DEECD, 2010b). 1:1 learning environment means that each student has access to a portable and networked digital device such as a notebook or tablet. These devices help to connect the students with their teacher and other learners or other multimedia resources for their learning purposes. Included in this program is the iPads for Learning Trial. The purpose of this trial is to investigate students’ learning outcomes and teachers’ ability to plan for individual student needs, as well as parental engagement in students’ learning from home (DET, n.d.). Between 2010 and 2011, this trial provided over 700 iPads in nine primary, secondary and special schools and the Royal Children’s Hospital Education Institute and the results have been exceptional:
76% of teachers said that students had (to a ‘great’ or ‘large’ extent) greater choice and flexibility in their learning.

85% of primary teachers and 90% of special school teachers thought that students were more motivated and engaged in learning, vs. 32% in secondary schools.

67% of teachers said that use of the iPad had improved their effectiveness as teachers, and 75% were using ICT more effectively in teaching and learning.

83% of primary teachers and 67% of special school teachers thought that using the iPad had improved students’ literacy outcomes vs. 16% in secondary schools. (DET, n.d., iPads for Learning Trial lessons learnt section, para. 3)

In addition, the Notebooks for Teachers and Principals Program has also been in place for over ten years to support the effective integration of ICT in classrooms. In this program, DET leases notebooks to all teachers and principals for 42-month cycles. In return they have to make a contribution payment to the Department and this payment is automatically deducted from their salary (DET, 2013). Until 2010, over $18 million each year had gone to supplying 41,000 notebooks to Victorian teachers and principals (DEECD, 2010a). Thus, there is a high expectation from DET as well as the Victorian government about teachers’ use of ICT in their practices.

As with the Languages policy landscape, there has been a significant shift in policy documents around ICT. At the national level, policies have moved from advocating students be competent users of ICT, to being confident and creative users (MCEETYA, 2008), and are more explicit around the pedagogical skills required by teachers to achieve their vision. In addition, several initiatives have been made by the Victorian government as well as DET,
including the 1:1 Digital Learning program, to encourage the effective integration of ICT in teachers’ practice. At the state level, ICT has now become entrenched.

2.1.5 The Australian curriculum.

Up until recently, curriculum in Australia has been under the control of each of the states and territories. According to a report from the Australian Government Department of Education (2014), the notion of a national curriculum had been put on the political agenda some time previously, with the Hawke Federal government in the late 1980s making a significant push for a national curriculum. However, draft documentation failed to achieve agreement from the states and territories. In April 2006, the Howard government also proposed a national curriculum, launching an Australian History Summit as a means to begin the process of drafting a national History curriculum. In April 2008, the Rudd government established the independent National Curriculum Board, who appointed four academics to draft “framing documents” to establish a broad direction for the National Curriculum in each of four subject areas: History (Stuart Macintyre), English (Peter Freebody), Science (Denis Goodrum) and Mathematics (Peter Sullivan) (Australian Government Department of Education, 2014). In May 2009 the Australian Curriculum, Assessment and Reporting Authority (ACARA) was established to oversee the implementation of the planned nationwide curriculum, becoming operational at the end of May 2009 (ACARA, 2013a).

Guided by The Melbourne Declaration, the Australian curriculum establishes the standards for what all young Australians should learn during their school life (ACARA, 2013a). The Australian curriculum is currently being implemented from foundation Year to Year 10 (F–10) in a number of phases (ACARA, 2013a), as shown in the table below. These phases are:

- Phase 1: English, Mathematics, the Sciences and History from the start of 2011
- Phase 2: Languages, Geography and the Arts
• Phase 3: Health and Physical Education (HPE), Information & Communications Technology (ICT), Design & Technology, Economics, Business and Civics & Citizenship

Each curriculum is developed in four interrelated stages:

1. **Curriculum shaping**: a broad outline about the purpose, structure, and organization of the learning area is produced.

2. **Curriculum writing**: an Australian curriculum for a particular learning area, including specific content and achievement standards is then produced.

3. **Preparation for implementation**: the curriculum is implemented in an online environment.

4. **Curriculum monitoring, evaluation and review**: issues with the curriculum are identified and where needed, are investigated further. Monitoring also occurs. (ACARA, 2013a).

Table 1

**Summary of Australian Curriculum Development**

<table>
<thead>
<tr>
<th>LEARNING AREAS</th>
<th>GENERAL CAPACITIES</th>
<th>CROSS CURRICULUM PRIORITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Phase 2</td>
<td>Phase 3</td>
</tr>
<tr>
<td>English</td>
<td>Languages</td>
<td>Health and Physical Education (HPE)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Geography</td>
<td>Information &amp; Communications Technology (ICT) capability</td>
</tr>
<tr>
<td>Science</td>
<td>Arts</td>
<td>1. Information &amp; Communications Technology (ICT) capability</td>
</tr>
</tbody>
</table>

1. Aboriginal and Torres Strait Islander histories and cultures

2. Asia and Australia’s engagement with Asia
2.1.6 National Languages curriculum

The Draft Shape of the Australian Curriculum: Languages was released in January 2011 by ACARA. This document emphasized the importance of having Languages as one of the key learning areas, arguing that Australia has a unique and dynamic migration history (ACARA, 2011). Currently, the Australian Languages Curriculum is waiting for final endorsement, however, curricula for most of languages are already available online for use, and state and territory education authorities have to decide their implementation timelines (ACARA, 2013a).

Some key concepts and understandings provide the foundation for the development of the Australian Curriculum: Languages (ACARA, 2011). These are:

- Language
- Culture
- The relationship between language and culture
• Understanding language learning as an intercultural process
• Understanding language learning and literacy development
• Understanding the learning of Australian languages

The design of the Australian Curriculum: Languages is based on the key concepts and understandings listed above and is organised through a set of three interrelated strands:

1. Communicating: using language for communicative purposes

2. Understanding: analysing language as a resource for making meaning

3. Reciprocating: interpreting self in relation to others as language users

A Curriculum Design Paper (version 3.1) was published in June 2013, which outlined guiding questions for teachers to consider when thinking about their curriculum. Questions include:

• Does the curriculum acknowledge that all students bring a diverse range of language resources and that these need to be recognised, used and extended?
• Has care been taken to ensure that language used is not exclusive and that terms selected are not negative?
• Is the student’s language acknowledged as an important learning resource? For example, are students encouraged to explore concepts using their home language when appropriate?
• Does the curriculum value and use what students bring to the class from their own background and life experiences?
• Does the content/context cater for different levels of ability?
Does the content/context cater for different socio-economic situations and/or geographic locations? (ACARA, 2013c, p. 12)

Thus ACARA has given great support to Languages teachers by providing these guiding questions. In addition, Languages curricula for Arabic, Chinese, French, German, Indonesian, Italian, Japanese, Korean, Modern Greek, Spanish and Vietnamese, as well as a Framework for Aboriginal Languages and Torres Strait Islander Languages are being developed. Also work is underway at the time of writing to develop additional languages such as Auslan, Classical languages, Hindi and Turkish (ACARA, 2013a).

To summarize, ACARA is developing Languages curricula as part of its Phase 2 development of the Australian curriculum. It is developing Languages curricula for a number of languages over a period of time. When complete this new Languages curriculum will impact on Languages teachers’ practice in Victorian schools because it will provide them with a clearer and more structural curriculum to work with (ACARA, 2013d).

2.1.7 National ICT curriculum.

ICT is also included in the Australian curriculum in two forms. Initially ICT was included as a General Capability along with literacy knowledge skills, numeracy knowledge skills, thinking skills, creativity, self-management, teamwork, intercultural understanding, ethical behaviour, and social competence. That is, ICT and the other General Capabilities as shown in the following statement are perceived as common to all curriculum areas (ACARA, 2013a).

Information and communication technologies (ICT) skills and understanding are required for all learning areas … New digital technologies are used in creative and artistic pursuits, and in civic and political activities. These opportunities for private
and public expression, unimagined half a generation ago, will make up important elements of the national curriculum. (ACARA, 2009, p.13)

More recently, ICT has been included as a distinct learning area within Phase 3 of the implementation plan. At the time of this study it is waiting for final endorsement and has been made available online for use, with two subjects, Design and Technologies and Digital Technologies. Like Australian Languages Curriculum, state and territory authorities will decide their implementation plans (ACARA, 2013a).

2.1.8 Victorian curriculum.

Curriculum in Victoria is undergoing significant change as a result of the development and phased implementation of the Australian curriculum. As such, much of Victoria’s curriculum at the time of this study was a mix of the older curriculum framework, the Victorian Essential Learning Standards framework (VELS), and the developing Australian curriculum, termed AUSVELS.

Under the VELS framework, the curriculum was organized into three strands: Physical, Personal and Social Learning, Discipline-based Learning and Interdisciplinary Learning. Within each strand there are a number of domains or broad subject areas (VCAA, 2013a). Languages curriculum was included within the Discipline-based Learning strand along with the domains of The Arts, English, The Humanities, Mathematics, and Science. ICT belongs in the interdisciplinary domain along with Communication, Design – Creativity and Technology, Thinking Processes. I discuss each of these in further detail in the ensuing paragraphs.
2.1.9 Victorian Languages curriculum.

At the time of this study, the Languages curriculum in Victoria was taught within the newly developed Victorian Australian curriculum framework, AUSVELS. The Languages domain is organized into two pathways. The first consists of 11 levels (F–10) for students who begin learning a language in primary school and continue to study the same language to Level 10. The second consists of four levels (7–10) for students who begin learning a language in Year 7. Each level includes a learning focus statement that teachers have to follow. This thesis is concerned with the teaching of primary languages (F–6). In the next section I explore this curriculum in further detail.

Some primary schools start their Languages education as early as at the Foundation level and some schools start from Level 1 or 2. Regardless of the level at which the language is introduced, students need to develop the knowledge and skills described in the phases before they can move on to the next phase (VCAA, 2013b). Students progress through the first two stages of the Languages learning continuum: laying the foundations stage from Foundation to Level 4 and the Building breadth and depth stage for Level 5 and 6. In Languages Pathway 1, standards for assessing and reporting achievement are introduced at Level 5.

Prior to Level 5, in relation to using technologies in learning Languages, students are required to recognize the use of the language in several media and information and communications technologies, and produce simple multimedia texts in the language (VCAA, 2013b). For Victorian Languages teachers, AusVELS has stated that the teaching focus for them is that students are given opportunities to learn about the speakers of the language through the introduction of culturally relevant and age-appropriate technological materials, such as CDROMs and various digital media, videos, stories, the internet, and so on (VCAA, 2013b).
Thus, the state Languages curriculum allows students to develop communication skills and knowledge of the language they learn and use that as a platform to understand social, historical, familial relationships and other aspects of that language and culture of the speakers of the language they are learning. The use of technologies has also been mentioned in Languages curriculum as a useful tool for students in learning every aspect of the language they are studying. However, whether or not Languages teachers in Victoria follow AusVELS and actually integrate ICT into their practice is still being questioned.

2.1.10 Victorian ICT curriculum.

Primary students during Preparatory Year to Year 4 start from becoming familiar with the main components of a computer to creating simple information products. As they progress and become more competent, they are required to use technologies not only to share their knowledge and acquire information, but also to visualize their thinking in order to make sense of ideas, concepts and issues from all domains, and to reflect on their learning (VCAA, 2013a). Thus there is a need for technology to be used to support Languages learning.

During their first years at school, students are introduced to simple electronic communication tools. As they move on, more complex and contemporary communication tools are gradually introduced (VCAA, 2013a).

2.1.11 Summary to Part 1.

This part of the chapter has focused on examining recent national and states policies and curriculum frameworks as they relate to Languages and ICT. It suggests that there have been significant shifts in both policy areas.

The emphasis of ICT in national policies has moved from one of students being competent users of ICT to being confident and creative users of digital technologies where ICT is
positioned as a tool that supports being a successful learner in all areas of the curriculum (MCEETYA, 2008). In the most recent iteration of the Australian Curriculum, digital technologies have become a focus of specific study as well as a general capability. As well, the role of the teacher has been made more explicit, to employ effective pedagogies in order to realize the pedagogical possibilities of ICT. Successive policies have reinforced the importance of all students learning a language other than English, reflecting the culturally diverse population of Australia. Further, curriculum policies stipulate that ICT should be used to support Languages learning. It is to this topic I now turn.
2.2 Languages and ICT

This second part of chapter is concerned with reviewing how ICT has been used in language teaching and learning in general. It begins by examining a number of influential reviews of ICT use in learning, followed by a section in which I explore common technologies being used in language teaching and learning, and the purposes they are used for.

2.2.1 A review of the use of ICT in language teaching.

To undertake this review of how ICT has been used in foreign language teaching and learning, I draw on reviews previously conducted by a number of other researchers, namely Golonka, Bowles, Frank, Richardson, and Freynik (2012), Liu, Moore, Graham, and Lee (2003), Macaro, Handley, and Walter (2012), Stockwell (2007) and Zhao (2003). These reviews have provided us with a broad picture of how ICT has been used in language classes during the past two decades. They also give us a useful insight into how researchers have considered the impact of ICT on the teaching and learning of foreign languages.

Liu et al. (2003).

Two key literature reviews of studies were conducted between 1990 and 2001. They included some 246 peer-reviewed papers from 21 journals in their reviews, which focused on examined the effectiveness of using ICT in teaching foreign languages (Liu et al., 2003; Zhao, 2003). Both reviews suggest that in the early 1990s, researchers were still doubtful about the value of technology in the language classroom but that over time this uncertainty shifted, with later researchers being more interested in examining how to integrate technology more effectively in the language classroom and which technology applications should be used.
In one review, Liu et al. (2003) concluded that Daedalus Integrated Writing Environment was the most commonly used application in language classrooms in the early period. Daedalus Integrated Writing Environment is software that runs on Macintoshes or PC-compatibles connected to a local area network (LAN). It is a very simple program that belongs to the genre of “real-time” conferencing software, meaning that, unlike email, where communication is asynchronous, participants log in to the network at the same time (Swaffar, Romano, Markley, & Arens, 1998). Liu et al. also considered multimedia authoring software, word-processing software, the internet, and speech recognition software, which aimed to develop students’ writing and reading skills.

Liu et al. (2003) concluded that research from 1990 to 2000 had provided some evidence on the benefits of integrating ICT in teaching and learning languages. For example, it suggested that visual media assisted vocabulary acquisition, reading comprehension, and helped students to achieve higher scores. In addition, online communication tools helped to develop students’ writing skills because they provided students with a positive and enjoyable learning environment and thus decreased their anxiety.

Zhao (2003).

In 2003, Zhao conducted a meta-analysis to assess the potential of technology for improving language teaching and learning. Zhao’s 2003 review included 156 peer-reviewed articles published in 22 journals from 1997 to 2001, which mainly focused on adult language learners. Zhao (2003) suggested there was evidence showing that lessons assisted by technology could be as effective as those delivered by a traditional non-technological method.

Nevertheless, Zhao urged that findings should be considered with extreme caution for number of reasons. Firstly, he suggested that journals tended to publish studies that
concluded that there were positive outcomes for the use of technology in language teaching. Secondly, he suggested that many studies had fairly small sample sizes and most of them were conducted on adults and college students rather K-12 students, thus the generalizability of the findings were questioned. And finally, he argued that most of the instruments in the studies were designed by the researchers, who were also instructors. Therefore, there was a possibility that the results have might had a bias towards the technology being used. In short, Zhao suggested that researchers needed to address a number of issues (Zhao, 2003, p. 22-23) 

*Macaro et al. (2012).*

Macaro et al. (2012) conducted another major review on the integration of ICT in teaching languages, but this time with a focus on primary and secondary education. Their review consisted of 117 studies from 1991 to 2010. The main purpose of Macaro et al.’s review was to explore what technologies had been used in language teaching and why, and to find out if there was evidence showing the benefits of using technology in language teaching. This review showed that there was a great range of types of technologies being used in teaching different language skills. Internet-related technologies were shown to be used highly in developing all language skills apart from listening.

This review also looked for evidence of a positive relationship between ICT use and language acquisition skills, that is, whether using ICT in language learning enhanced student learning outcomes. Macaro et al. (2012) found some evidence suggesting benefits of the use of ICT in language education. However, the evidence was still broad and inconclusive.

Macaro et al. argued that there was no tight link between technology, Second Language Acquisition (SLA) theory, and learning outcomes. To investigate whether technology could enhance the teaching and learning of languages, Macaro et al. reviewed the evidence from
studies that focused on specific language skills such as vocabulary, grammar, pronunciation, reading, writing, and listening.

Some of the key findings from Macaro et al.’s review were:

- There was a significant increase over the period 1991 to 2010 in the number of studies conducted on the integration of ICT in language teaching.
- The most frequently studied technologies were Multimedia, Computer Mediated Communication (CMC) technologies and the internet. Among CMC technologies, e-mail was the most popular.
- More studies were conducted with secondary school students than with primary school students.
- The largest number of studies focused on vocabulary and writing, then came reading, speaking, listening, grammar and, finally, pronunciation.

Overall, Macaro et al.’s review found some evidence suggesting benefits of the use of ICT in language education. However, the evidence was still broad and inconclusive. They suggested that future studies should provide a more detailed description of the technology being used and aim for much higher levels of quality studies.

*Stockwell (2007).*

Another influential review was undertaken by Stockwell (2007), who examined technological choices in teaching different language skills (reading, writing, listening and speaking) and language areas (pronunciation, vocabulary and grammar). Stockwell included 206 empirical studies from 2001 to 2005 from the CALICO Journal, the CALL Journal, Language Learning & Technology, and ReCALL. The review showed that there was a great range of types of technologies being used in teaching different language skills. Internet-related technologies were shown to be used highly in developing all language skills apart from listening.
Stockwell further revealed that there had been an increase in the number studies done on pronunciation and speaking skills, which had responded to the previous review done by Liu et al. (2003) claiming that there was not enough research done on these skills. Stockwell argued that the relationship between technology and pedagogy in a language classroom was a mutually dependent relationship, that is, that technology itself cannot make a difference in a language classroom, as it depends heavily on good pedagogy. In other words, using technology in a language classroom cannot guarantee a positive outcome.

Golonka et al. (2012).

In another review Golonka et al. (2012) reviewed 350 empirical studies in their efforts to understand the types of technology used in language learning and teaching and their effectiveness. In contrast to some of the other reviews, Golonka et al.’s review focused on the technology used. The researchers focused on studies that compared the use of technology with more traditional non-technological methods or materials.

Golonka et al. (2012) also concluded that a large number of studies had suggested that learners enjoy using technology in language learning and that they preferred using technology over more traditional methods and materials. Elaborating further, the researchers suggested that technology helps learners to be more engaged in the process of learning, and to have a more positive attitude towards learning. However, these findings were mainly based on qualitative self-reported and observational data.

Taken together, there has been some evidence from research that suggests that using ICT in teaching languages is effective and can have positive outcomes. Some of these benefits relate to developing several language skills such as vocabulary, grammar, pronunciation, and writing skills as well as promoting learner’s attitude and learning behaviour. Most of the reviews however questioned the generalizability of the findings. A large part of literature
suggests that technology has been used in language teaching as a helping tool to develop different language skills, not to develop the teaching and learning itself. This is typified in the following comment, that, “Good teaching remains good teaching with or without the technology” (Higgins, Beauchamp, & Miller, 2007, p. 215). The technology might strengthen the pedagogy only if the teachers and pupils engaged with it and understood its potential in such a way that the technology is not seen solely as an end in itself but as another pedagogical means to achieve teaching and learning goals. In the next section I will review the popular technology devices being used in language classrooms.

2.2.2 Review of popular ICT devices being used in language classrooms.

Over the last 20 years a number of technological applications have typically been used in the Languages classroom. In the following section I review some of these commonly used applications, as well as the arguments given for their use.

Interactive whiteboard (IWB).

An interactive whiteboard (IWB) is a touch-sensitive electronic presentation device that usually comprises four components: a computer, a projector, appropriate software and the display panel, which is a large free-standing or wall-mounted screen up to two metres by one metre in size (Cutrim Schmid, 2006). The board is connected to the computer to display a projected image, which allows the user to control the computer by touching the board or with the computer mouse (Beauchamp, 2004). This technology was first developed for presentations in office settings and, in terms of educational settings, appears to have been used first in higher education, following by use in primary schools in the late 1990s (Higgins, Beauchamp, & Miller, 2007).
There has been a considerable amount of research done on the advantages of the IWB in language teaching (Beauchamp, 2004; Cutrim Schmid, 2010; Higgins, Beauchamp, & Miller, 2007). Kennewell and Morgan (2003) state that the IWB is particularly beneficial in teaching primary students because touching the boards seemed to be very important for younger children, although this point had not been recognized by the designers. Further, Scarino and Liddicoat (2009) argue that the IWB is particularly suited for language teaching because it meets the current social-cultural approach to language pedagogy, which emphasizes language acquisition as occurring through social interaction. In the next few paragraphs I review some of this literature in further detail.

In 2005, Miller, Averis, Door and Glover conducted research that included 13 secondary language teachers in England. The purpose of this project was to identify positive effects of IWBs on language teaching and learning. Their findings suggested most teachers when using the IWB developmentally progressed through three stages:

- **Supported didactic:** the teacher uses the IWB only as a visual support to the lesson with little interactivity or discussion. The IWB is used to illustrate rather than involve, and the teacher uses only limited materials with its tools or software or PowerPoint. Technology is not considered as an integral part of the lesson.

- **Interactive:** the teacher makes some use of the potential of the IWB to stimulate students’ responses and to demonstrate some concepts. Various software can be used at this stage. The IWB is not considered as the centre part of the lesson.

- **Enhanced interactive:** this stage is a progression from the previous stage. Technology is now an integral part of the lesson. Teachers are fluent in the use of technologies available and design their lessons in ways that students have considerable amount of time as individuals, pairs or groups to involve in active learning. Teachers use the
IWB as a tool to prompt discussion, explain processes, and develop hypotheses or structures.

A qualitative research study by Cutrim Schmid (2006) revealed another important role of the IWB, that of establishing a communication channel between teachers and learners in the classroom. His data indicated that the teacher and learners used the IWB in different ways. While teachers would like to use the IWB in a traditional way, the students would like to move back and forth from the IWB to their desks and use the IWB to share their knowledge with the rest of their group or to play the teacher's role.

Gray, Pilkington, and Tomkins (2007) produced four case studies of four language teachers in an English secondary school. Although all of the teachers used the same technologies in their practice – the interactive whiteboards, their laptops and classroom computers – each individual teacher made different choices in their focus on how to use them. One teacher used her interactive whiteboard to present a range of whole-class practice games to help students memorize the language and have an opportunity to use it themselves. Another teacher used the interactive whiteboard to display the students’ learning. The third teacher used the interactive whiteboard as a tool for students’ presentation after they have worked in their groups with the classroom computers. This teacher’s main focus of using ICT in her teaching was to prise work, both oral and written, out of students who would not normally engage with language lessons. The fourth teacher in this research was a new language teacher, who used the interactive whiteboard and Power Point as her main teaching resources because she found them more beneficial in terms of pace and transition.
Gray et al. (2007) concluded in their research that the prime benefits of using the interactive whiteboard (as ICT in language classrooms generally) is in terms of classroom management and control. All of the teachers in their research used technologies as a tool to control the learning material and students’ behaviour. They suggest that when technologies are being used most of the time in language classrooms, students are given the illusion of interacting with them rather than their teachers, and as a result it helps to reduce any potential teacher-student conflicts. Gray et al. also assert that technologies can help language students feel like they are working through an in-house learning program rather than just commercial textbooks.

To sum up, since it was first introduced in schools in the late 1990s (Moseley, Higgins, & Bramald, 1999), the interactive whiteboard has been a valuable asset to the learning and teaching of foreign languages. It helps language teachers in terms of classroom management and control because teachers use this technology as a tool to control the learning material and students' behaviour. In addition, this technology can also acts as a communication channel between teachers and students. Furthermore, research has found that there are three mental development stages that teachers usually experience in regarding to the use of the IWB in their classroom, they are Supported didactic, Interactive, and Enhanced interactive. The Enhanced interactive is the stage teachers should be at because it maximises the benefits of the IWB.

*Network-based social computing technologies.*

In 2009 Victoria’s Department of Education and Early Childhood Development conducted a study of the impact of Web 2.0 technologies on student learning, which included case studies from a large number of primary schools and high schools in Victoria between 2006 and 2009.
The findings from the case studies suggested numerous learning benefits of using blogs and wikis in language classrooms, including: increasing students’ participation and commitment to their work because they are exposed to a wider audience, extending teachers’ collaboration beyond the classroom to the wider school community and to the parents, improving students’ consideration as they have to provide constructive feedback on their friends’ work via blogs, and last but not least, providing effective and easy access to students’ progress records.

Crawford (2002) argues that an ideal Languages lesson is when learners have opportunities to interact and complete tasks in the target language with an authentic audience. Crawford further comments that school settings offer learners very little face-to-face contact with speakers of the target language. To overcome that problem, Crawford suggests that technology can not only give students access to information and up-to-date cultural resources but also valuable experiences with other users of the target language.

Stockwell (2007) suggests that many of activities associated with using the internet can be beneficial to language teaching. For example he suggests that online activities, Chat, MOO, Email, and BBS could develop students' grammar, vocabulary, pronunciation, reading, writing, listening, and speaking skills. Stockwell also suggested that many websites are valuable for assisting specific language skills. For teaching grammar, there are a number of online activities using authoring software such as Hot Potatoes (Allum, 2002), Longman English Online (Jamieson, Chapelle & Preiss, 2004), Intelligent Language Tutoring System (Shaalan, 2005) for Arabic learners, Azalea for Japanese learners (Chen & Tokuda, 2003). For teaching reading, ESL teachers could use the website www.netlearn.us (Chun, 2011), or French and Latin teachers could use MOOs online activities (Chenoweth & Murday, 2003; Gruber-Miller & Benton, 2001) to assist them with their teaching.
One of the most common benefits of using the internet to the languages classroom reported by researchers is that it provides students with authentic materials, thereby exposing them to foreign language input (Erbaggio, Gopalakrishnan, Hobbs, & Liu, 2012). Rogers and Medley (1988) have defined authentic materials as “samples that reflect a naturalness of form and an appropriateness of cultural and situational context that would be found in the language as used by native speakers” (p. 468). There has been an increasing trend towards the incorporation of authentic materials into foreign language teaching for the past 20 years (Crawford, 2002; Erbaggio et al., 2012; Hoopingarner, 2009; Kern, 2006). Research shows that authentic materials may permit teachers to promote independent learning environments, and help introduce less-familiar linguistic and cultural phenomena more efficiently than printed text (Erbaggio et al., 2012). Further, Levy (2009) claimed that authentic materials play an important role because they are designed by native speakers for native speakers, and as a result, they provide real data for any exploration of the culture.

Several online networks have been used in language teaching in the last decade, among them, the most popular ones are Blogs, Wikis, Chat, Podcast and Facebook (Arslan & Şahin-Kızıl, 2010; Castaneda, 2011; Ducate, Anderson, & Moreno, 2011). These networks are a form of computer-mediated communication that allows their participants to interact beyond the traditional face-to-face classroom across time and distance (Castaneda, 2011).

There has been a lot of research done on the advantages of having blogs in language learning (Godwin-Jones, 2003; Hsu, Wang, & Comac, 2008; Huffaker, 2005; Pinkman, 2005). Hsu et al. (2008) claimed that language teachers should employ blogs as students’ e-portfolios, arguing that it not only provides the teachers with ongoing assessment but also provides students with an ongoing process to monitor their learning. Some researchers also suggest
that blogging provides students with a sense of freedom to express ideas and make their arguments, more than classroom-based participants (Sun, 2009).

Chatrooms have been increasingly popular among language learners. Some researchers suggest that they can increase motivation and participation, but also reduce anxiety, as well as help to generate negotiation of meaning and form, corrective feedback, self-correction, and output pushed towards the target language (Hamano-Bunce, 2011).

Eroz-Tuga and Sadler (2009) conducted a comparison of six video chat tools: CUworld, ICQ, MSN Messenger, Paltalk, Skype, and Yahoo Messenger. They critically evaluated the tools based on their technical, communicative, and usability aspects. The teachers found that MSN Messenger and Skype were chosen the most by the students because of their perceived practicality in their technical aspects and usability for academic as well as personal purposes. However, they also suggested limitations in these tools, including only enabling one-to-one video and audio. The next choice for the teachers was CUworld and Paltalk because they have believed they have a strong emphasis on community-oriented design and also emphasize potential for communication with unknown people. At the lower rank were Yahoo and ICQ due to their audio and video connection. Nevertheless, on a positive note, some participants stated that they liked Yahoo because they could send messages to people even when their friends were offline. Similarly, ICQ was liked because it allows multiple-party video chat.

There has been research around using emails as an extra medium of communication between teachers and students in language learning (Bloch, 2002; Hannon, 2001; Hassini, 2006). Most of the research has focused on university students when students are mature and can take full responsibility of their cyber footprint. Very few studies have been undertaken with school
students, especially primary school students, when students still need to seek parents’ approval for online activities. Nevertheless, researchers agree that using emails can provide a valuable communication channel between teachers and students (Duran, Kelly, & Keaten, 2005; Sheer & Fung, 2007).

**Recording devices.**

In the 80s and 90s, language teachers used to test students’ oral skills by interviewing them (Brown, 1995; Meredith, 1990). However, teachers found that this type of assessment was too time-consuming and could also cause a stressful testing environment for students (Larson, 2000).

Larson (2000) suggested that there are several notable benefits associated with computerized oral testing, including making it easier for the teacher to discriminate between phonetically similar sounds that could ultimately cause confusion in communication, making students feel less anxious, giving all students the same questions in exactly the same way, and giving teachers a chance to access students’ responses almost instantaneously for evaluation at a later time.

One of the methods of assessing students’ oral language skills with voice recording is using voice blogs. Voice blogs allow language teachers to provide oral or written feedback to individual students (Hsu et al., 2008). It is essential for language teachers to provide sufficient feedback on students’ writing and speaking skills.

Hsu et al. (2008) claim that blogs can incorporate multimedia formats of works because in addition to writing assignments, students can record an audio or video file and can archive the artefact on their blogs. Teachers then can assess students’ work and provide them with
individual written or oral feedback. Hsu et al. further reveal several advantages of utilising voice blogs in a language classroom, they are:

- Ease of use: because this friendly technology enables students to focus more on learning tasks and less on the technology.

- Affordance: because all the teachers and students need are a computer and a mobile phone (or VoIP account).

- Easy archiving of assignments for evaluation: because this technology helps teachers to measure students’ performance outcomes and to track students’ learning progress.

- Compatibility with multimedia format files: because teachers can assign homework in multimedia formats by inserting audio clips or video clips into blogs or external links into blogs so that students can access other websites containing news articles or broadcast audios.

- Easy to facilitate interaction: because this technology allows teachers and students to interact effectively and conveniently through the hypertext function.

Several applications of the iPod in language learning have been explored in recent years. Students can use iPods to respond to verbal quizzes, submit audio assignments, record audio journals, receive oral feedback from their instructor; or use them to listen to authentic materials such as news, songs, and poems (Belanger, 2005). There are several successful stories regarding the use of iPods in the language classrooms. A high school in Nebraska is reported to have used iPods to record speech samples for students and teacher language assessment; students taking distance-learning German and Spanish courses through the United Kingdom’s Open University use iPods’ digital voice recorders and mini-camcorders to record interviews with other students and locals and to create audio visual tours (Kukulska-Hulme, 2005). The iPod has also brought a new form of media known as podcasting, a
portmanteau that combines iPod and broadcasting. Along with voice blogs, podcasting is widely used in language learning, both to access authentic content and to record it (Chinnery, 2006).

Using student-created digital video in language teaching is not a new idea but only in the last decade has it been used more and more by teachers (Henderson, Auld, Holkner, Russell, & Seah, 2010). Positive educational outcomes of engaging students and enhancing oral activities in video production have been mentioned in literature since the 1990s (Broady & Duc, 1995; Forman, 1999; Tyner, 1994). Recently, Green Screen Technology is among the new technologies using digital video to assist language teaching and learning. Being at locations where the target language is spoken is a valuable experience for all language students. However, not all language students can have such experience. Using green (or even blue) screen technology can provide language students and their teachers with an opportunity to virtually be anywhere in the world. For example, they could be in front of the Eiffel Tower, the Great Wall, or even a Mayan pyramid (Valle & McConkey, 2013). This technology allows students to create virtual field trips to anywhere they like. In order to create a project with this technology, students have to take photos and record video clips about the country of their target language and then upload them to the big screen ready to use for their language lessons. Valle and McConkey suggest that using Green Screen Technology in language classrooms can have numerous benefits, including developing students’ motivation, cooperation, relationships, and problem-solving. In addition, students are encouraged to use active language skills, such as correct grammar and vocabulary as well as proper pronunciation, resulting in cultural appreciation and awareness through the use of this technology.
Apart from asking students to make their own clips, language teachers could also let students watch films or short video clips to develop their language skills. King (2002) claims that DVD feature films have provided a wide range of pedagogical options for language learners. Stempleski (2000) further adds that films are invaluable teaching resources for language teachers because they not only present the countries in real life contexts rather than artificial situations, but also expose students to a wide range of native speakers, each with their own slang, reduced speech, stress, accents, and dialects. Thus, similar to other technologies using recording devices, DVD watching also helps students to improve different language skills such as listening (when watching the movies), speaking (when discussing the movies), reading (finding personal data or information about their favourite actors and or film reviews), and writing (writing personal reviews or a summary of the movies).

**Robot-assisted language learning (RALL).**

Along with the rapid development of mobile technology in language learning and teaching, robot-assisted language learning has been introduced in Canada, Japan, South Korea, Taiwan, and the United States of America (Han, 2012). Han states that the most distinct advantages of robots, compared to computers and mobile devices, are that they have names, their own birth stories and personalities, friendly appearances, and a capability for social interactions. A low-cost robot used in language learning includes an LCD with Wi-Fi for video conferencing and wheels for movement that are controlled by a remote control. It has no arms or head movements.

Lee et al. (2010) suggest that RALL motivates students’ learning and increases students’ interest and confidence in learning foreign languages because it has human-like behaviour with different speech functions and face expressions. Lee et al. (2011) state that in order to
identify the positive effects of using robots in language learning, a group of researchers in Japan placed a robot in year one and year six classrooms in a primary school for two weeks. After the trial period, the researchers compared the frequency of students’ interaction with the robot. The results show that although in the first week the interaction between the students and the robot was not high and it did not affect students’ English skills, the interaction had developed significantly in the second week and students’ English skills had also improved.

Despite several advantages in recent development of RALL for language learning, there are still some barriers in using RALL in language classrooms. Lee et al. (2010) reveal that robots are not able to give students encouragement and praise in some situations to reduce students’ fear and anxiety. Furthermore, they claim that robots do not allow small mistakes to be made by students. Although these mistakes do not influence the communication process, students can be under pressure and lose their confidence.

Thus, the literature shows that there is considerable scope for making use of a variety of ICT applications and devices to support and enhance the language learning of students. However, what is their actual uses in Victorian primary Languages classrooms?

2.2.3 Summary to Part 2.

In this second part of the chapter I have explored how ICT has been commonly used in language teaching and learning. Over the last 20 years the use of ICT in language teaching and learning has evolved from just using Word or e-mail to more interactive and collaborative tools, reflecting the evolution of ICT. I drew on several existing reviews of the literature that examined the relationship between ICT and language learning skills, revealing broad and inconclusive findings. This literature suggests that while technology has been used
in language teaching as a tool to develop language skills, using ICT in a language classroom does not guarantee a positive outcome. I also explored some of the most popular technology applications being used in language classrooms including the interactive whiteboard, network-based social computing technologies, recording devices, and the latest technology – Robot-Assisted Language Learning. But the question still remains: are Languages teachers in the primary classroom using ICT, and if so, in what ways? My study aims to explore how two such primary Languages teachers are making use of ICT in their own practice.
2.3 Barriers and Enablers to Teachers’ Use of ICT

This section of the chapter reviews literature in relation to factors that can impact on teachers’ use of ICT in school education. It is not specific to Languages teaching, as the literature rarely differentiates by discipline.

2.3.1 Barriers to teachers’ use of ICT.

As discussed in the second part of this chapter, there is still considerable debate around the effects of the use of ICT in a classroom. The integration of ICT into teaching and learning is a complex and challenging task (Groff & Mouza, 2008) and there has been considerable research into the barriers to teachers’ use of ICT in their classrooms. A large part of this research has been undertaken in school education from numerous countries including the United States, United Kingdom and Australia.

It is important to study the barriers to teachers’ use of ICT in the classrooms so that we can develop practical strategies to overcome these barriers (Drent & Meelissen, 2008; Ertmer, 1999; Groff & Mouza, 2008). There are different approaches to categorising or grouping these barriers as suggested by different researchers. Ertmer (1999) put them into two categories, first-order barriers and second-order barriers. First-order barriers are those that are extrinsic to teachers and relate to the physical ICT environment, including connectivity and the availability of technology; and second-order barriers are those that are intrinsic to teachers, including ICT competency and pedagogical approaches to the use of ICT (Ertmer, 1999). She further explains that the first-order barriers are easy to measure and to eliminate because they mainly depend on the level of funding, the second-order barriers are, in contrast, more complex because they more on a personal level.

Hew and Brush (2007), on the other hand, group the 123 barriers they found in literature from 1995 to 2006, into six smaller categories: resources, knowledge and skills, institution,
attitudes and beliefs, assessment, and subject culture. They also claim that the barriers in these categories are all related to one another (Hew and Brush, 2007). Alternatively, Buabeng-Andoh (2012) divides these factors into three broad levels, each with its own sub-listings: teacher’s level, school’s level, and technological level. According to this researcher, the barriers on the teacher’s level are: teachers’ feeling, knowledge and attitudes towards technology; on the school’s level are: support, funding, training and facilities; and lastly on the technological level is teachers’ belief about the positive effects of technology on their lessons and students (Buabeng-Andoh, 2012).

In this discussion, based on the scope and the essential components of this study, I group the main barriers to teachers’ use of ICT in two levels, school level and teacher level. The school level barriers include lack of time, lack of professional development, lack of accessibility, and lack of support. The teacher level barriers include teachers’ ICT proficiency, teachers’ belief, and teachers’ resistance to change.

**School level barriers.**

*Lack of time.*

According to Fabry and Higgs (1997), lack of time refers to the time teachers need in order to get familiar with the technology, then to change their curriculum to incorporate technology into their lessons, and lastly to set up their classroom. Beggs (2000) comments that regarding technology, “time is at a premium” (p. 4) because it does not only require time to learn the technology but also requires longer time to develop a curriculum that uses technology. As a result, he considers time is a major restriction to teachers’ integration of ICT in their classrooms.

Correspondingly, Mumtaz (2000), Pelgrum (2001) and Sicilia (2005) comment that this integration is a complex process and requires a lot of time from the teachers and as a result, it
affects teachers’ willingness for ICT integration in their classrooms. Similarly, Preston, Cox and Cox (2000) suggest that a great deal of time is required to prepare suitable ICT materials for use by children with a range of abilities, thus lack of time restricts teachers from exploring materials for potential use with ICT. The BECTA report (Jones, 2004) also supports this by claiming that teachers would require more time in their timetables, which included time needed for getting to know the technology and preparing lessons.

On the other hand, Cox, Preston and Cox (2000) indicate that lack of time refers to the actual time teachers need to allocate for the use of technology devices during their lessons, which is supported by statistics from the American National Center for Education report (as cited in Afshari, Bakar, Luan, Samah, & Fooi, 2009). These statistics show that 82% of in-service teachers agreed that lack of time was the main reason for their reluctance to use ICT in their classes because they felt that they did not have enough time scheduled for students to use technology during their lessons although there was a genuine need for it. Therefore, the teachers in Cox et al.’s study (2000) commented that although the use of ICT in teaching could potentially make their lessons more interesting for students, they were hesitant to use them because they usually took up so much time of their lessons.

The BECTA report (Jones, 2004) also suggests that lack of time means the time teachers need to deal with technical problems. Teachers in the Chigona and Chigona (2010) study claimed that when they experienced technical problems during class time, by the time they got help or knew how to solve the problems, a lot of class time had already been wasted.

Thus, lack of time is a recurring concern in the literature. It includes time getting to know the technology, preparing lessons, allocating the use of technological devices among the students, and last but not least for solving technical problems.
Lack of professional development.

Professional development is another barrier often mentioned in literature that influences teachers’ willingness to use ICT in their classrooms. Earle (2002, p. 10) emphasizes that “it is important to remember that technology is not a subject”. In fact, the focus of ICT integration in the classrooms is teachers’ pedagogy and their choices about technology (Earle, 2002). Teachers have to ensure that they are not teaching about technology but rather use it as a tool to achieve their main purposes. Further, Baylor and Ritchie (2002) assert that unless teachers have the skills, knowledge, and attitudes necessary to integrate it into the curriculum, technology by itself cannot serve its purposes in the classroom.

According to Schaffer and Richardson (2004), professional training sessions are very important as teacher education programs often focus on the technology alone, rather than on teaching future teachers how to teach with technology. However, Kopcha’s study (2012) found that teachers did not receive enough training and assistance from their schools regarding how to effectively integrate ICT into their practice. This finding was also concluded by Hew and Brush (2007), who commented that teachers were not exposed to necessary pedagogy of how to use technology successfully in their classrooms.

Cox et al. (2000) nevertheless claim that professional development provided incorrectly by the schools is also considered as a key barrier to teachers’ use of ICT. Cox et al. further explain that teachers do not always know how to effectively integrate ICT into their teaching after attending their professional development courses because these courses sometimes focus on teaching about the technology itself rather than focusing on the pedagogical aspect, such as providing teachers with effective strategies that could lead to their successful integration of ICT in their teaching. Newhouse (2002) claims that it is important for schools to offer
professional development that prepares teachers with proper skills, knowledge, and approach to use technology effectively to enhance student learning in a variety of core content areas.

In this matter, Rodrigues’ study (2006) explains that a well-funded and well-resourced professional development program could be delivered using different modes such as face-to-face and online communication. She adds that during this training, teachers should be able to support each other in creating, sharing and using resource materials with a variety of technology applications in “realistic e-learning classroom environments” (p. 176). This might give teachers a clearer vision of how to integrate technology effectively into their own classrooms. Or as Ertmer (1999) describes “teachers need opportunities to observe models of integrated technology use, to reflect on and discuss their evolving ideas with mentors and peers, and to collaborate with others on meaningful projects as they try out their new ideas about teaching and learning with technology” (p. 54). More importantly, Veen (1993) also recommends that like classroom teaching, professional development should be differentiated according to teachers’ experience and levels of skills in using ICT so that training could be delivered according to individual teachers’ needs. In short, not providing enough professional development or providing it incorrectly by the schools greatly affects teachers’ use of ICT in their classrooms. In addition to professional development, Rodrigues (2006) also comments that access to relevant equipment cannot be underestimated in terms of supporting teachers in using ICT in their classrooms.

Lack of accessibility.

The BECTA report (Jones, 2004) defines lack of accessibility as including lack of access to hardware, poor organization of resources, poor quality hardware, inappropriate software, and lack of personal access for teachers, all of which the report suggests directly affect levels of
teachers’ ICT use in class. In fact, without sufficient and appropriate software and hardware, there is less chance for teachers to use technology in their classrooms (Hew & Brush, 2007).

Mumtaz (2000) claims that “access to sufficient quantities of technology” (p. 324) is among the elements that created barriers to using technology in the classrooms. In other words, levels of access to ICT could determine levels of use of ICT by teachers. Mumtaz also reviews several studies that used survey data to identify these barriers and the result shows that accessibility is among three major factors involved in teachers’ successful use of ICT in their teaching. This corroborates a previous example provided by Ertmer (1999), which stated that a teacher rationalised his non-use of computers in his classroom on the grounds he could not accommodate 23 students with one computer. Thus, this teacher considered the lack of access to sufficient ICT equipment as the barrier to his use of ICT in his classroom (Ertmer, 1999).

In addition, in Hennessy, Ruthven and Brindley’s study (2005), teachers complained that poor access to ICT facilities was a major constraint to their integration of ICT into teaching in all subjects. In all six state secondary schools in Cambridge, where the study was conducted, teachers claimed that making use of technology to support teaching and learning depended primarily on having access to specially-equipped ICT rooms, which were in great demand and often timetabled for other uses. Hennessy et al. (2005) concluded that the percentage of curriculum time using ICT was small in all subjects in most of the schools due to limited access to their ICT facilities.

In short, effective implementation and integration of technology into teaching and learning relies heavily on the availability of the schools’ ICT resources because without that, teachers will not be able to use them in their classrooms (Buabeng-Andoh, 2012). Another factor that
affects teachers’ willingness to use ICT in their teaching is lack of support from school (Bingimlas, 2009; Drent & Meelissen, 2008; Goktas, Gedik & Baydas, 2013; Jones, 2004).

Lack of support.

Sicilia (2005) suggests that there are several technical problems that could potentially happen to teachers during their lessons such as websites not opening, the internet not connecting, computers or other equipment not working. According to Afshari et al. (2009), teachers are not willing to use technology in their classrooms because they are afraid that in case these troubles occur, they do not know where to get support from.

In an Australian study, the researchers on the other hand claim that technical support could include some aspects of ICT use, such as the use of particular software packages or the use of learning management systems for ICT-enriched lessons (Grainger & Tolhurst, 2005). Further, a teacher in this research also commented that quick and easy access to technical support staff on-site is essential for teachers in their daily use of ICT as they cannot rely solely on other teachers when there are hardware problems (Grainger & Tolhurst, 2005). Thus, it would seem that without necessary on-site technical support, teachers’ daily use of ICT in their teaching could not possibly happen.

Correspondingly, findings from a study from South Africa (Chigona & Chigona, 2010) show that the fact that schools do not have technical support readily available for teachers will negatively influence their use of the technology for teaching. Chigona and Chigona (2010) further explain that teachers usually have to wait for a period of time for technical support to come when they experience any difficulties; by the time support comes, the use of technology in their lessons has already been interrupted. Hence, lack of technical support plays a substantial role in their unwillingness to use ICT in teaching.
Furthermore, the BECTA report suggests that lack of technical support at schools is a barrier to teachers’ use of ICT because it could lead to the poor maintenance of the ICT equipment in the schools, which could result in “a higher risk of technical breakdowns” (Jones, 2004, p. 16). As a result, teachers would then avoid using the computers for some time because they were afraid of potential technical problems (Jones, 2004). Thus, having insufficient technical support in schools might result in teachers’ non-use of ICT in their curriculum.

In summary, regarding the school level barriers to teachers’ integration of ICT into their teaching, there are four main barriers – lack of time, lack of professional development, lack of accessibility, and lack of support. I will now discuss teacher level barriers.

**Teacher level barriers.**

Teachers are also considered as an important force that significantly influences the integration of ICT into teaching and learning (Earle, 2002; Preston et al., 2000), or as Zhao, Pugh, Sheldon and Byers (2002, p. 489) noted, “the teacher is naturally the first person one can look to for factors that affect classroom technology uses”. In the section below I will discuss two factors often reported in the literature as the barriers to the use of ICT in teaching and learning – teachers’ ICT proficiency, and teachers’ beliefs and attitudes.

**Technology proficiency.**

There is a great deal of literature that suggests that teachers’ lack of technology proficiency has been considered as a common barrier to teachers’ use of ICT in the classroom (Drent & Meelissen, 2008; Hew & Brush, 2007; Pelgrum, 2001). According to Zhao et al. (2002), the notion of teachers’ technology proficiency has changed significantly over the years. It no longer involves just the knowledge about the equipment or software application. Technology proficiency for teachers nowadays means that they not only know how to operate but also to “understand the enabling conditions” (p. 490) of the technologies that can be used in
teaching. Zhao et al. (2002) also defined these conditions as “knowing what else is necessary to use a specific technology in teaching” (p. 489). Zhao et al. (2002) further provided evidence showing that although the teachers in the study had some ICT skills, not having broader knowledge of the ICT applications limited or even prevented them from completing their projects.

Correspondingly, Baylor and Ritchie (2002) likewise comment that teachers’ technology proficiency involves their confidence in a variety of technological activities including “using a variety of software programs, identifying and explaining basic computer components, operating technology equipment, selecting and implementing appropriate technology to support curriculum, incorporating technology in instruction, and teaching students to use technology” (p. 402). Baylor and Ritchie (2002) further claim that this knowledge is essential for “an innovative teacher” (p. 411) who uses ICT in their teaching and without which teachers’ innovative use of ICT could be limited (Drent & Meelissen, 2008).

Hew and Brush (2007), however, added a new dimension to teachers’ technology proficiency. According to them, teachers’ technology proficiency means their knowledge and skills not only in the technology itself but also in technology-supported pedagogy and technology-related classroom management, and the lack of these knowledge and skills could be a major barrier to teachers’ ICT integration. Hew and Brush (2007) then explain that some teachers lacked basic technology skills such as logging onto the network or word processing, and as a result, did not make an effort to include any technology-related activities in their practice. Groff and Mouza (2008) further add that this lack of basic computer skills could also prevent teachers from learning any other essential skills for ICT integration in the classroom.
In addition, Hew and Brush (2007) state that lack of technology-supported pedagogy could prevent teachers from using ICT creatively and innovatively in their classroom. Or in Hughes’s words (2005), technology-supported pedagogy knowledge and skills “may push the teachers to consider new ways of teaching or new uses to old technology” (p. 298). As well, Hew and Brush (2007) found that technology-related classroom management knowledge and skills is equally important to teachers’ integration of ICT because differently from a non-technology integrated classroom, teachers need to be aware of all the additional rules and procedures regarding the use of technological applications so that they can run the lessons smoothly.

In short, technology proficiency for teachers includes a wide range of knowledge and skills, including not only about the technology applications used but also about technology-supported pedagogy and technology-related classroom management.

*Teachers’ beliefs and attitudes.*

Teachers’ beliefs are another common barrier to their use of ICT in the classroom. Hew and Brush (2007) suggest that teachers’ beliefs can include their pedagogical belief and personal belief about technology. Ertmer (2005) provides an extensive review of research into the effect of teachers’ pedagogical belief on their use of ICT in the classrooms, drawing on several previous influential studies. According to Ertmer (2005), there has been a lot of confusion in literature about the definition of teachers’ pedagogical belief. She further explains that part of the confusion comes from differentiating between teachers’ knowledge and teachers’ pedagogical belief. Ertmer stated that she agreed with Calderhead’s definition (1996), which claimed that “beliefs generally refer to suppositions, commitments, and ideologies, knowledge refers to factual propositions and understandings” (p. 28). Thus, Ertmer noted that having knowledge of the technology alone does not ensure that the teacher
will use that in their classroom. Or even if teachers did make an effort, Zhao et al. (2002) found from their study that “when teachers’ pedagogical beliefs conflicted with the technology they were attempting to incorporate into their classroom, they struggled to accomplish the goals of their proposed project” (p. 492).

In an earlier study, Ertmer (1999) identified teachers’ belief as one among the second-order barriers, the barriers that are intrinsic to teachers. Ertmer argues that these barriers are hard to recognize even by the teachers because they are “rooted in teachers’ underlying belief” (p. 51) and thus are difficult to eliminate. According to her, while first-order barriers, such as having access, time, support, could cause significant difficulty in the use of ICT in the classroom, second-order barriers affect the success of the use of ICT. Thus, Ertmer suggests that the second-order barriers should be carefully examined before addressing the first-order barriers to ensure the effectiveness of the integration of ICT in the classroom. For example, before providing access to technology, the school should carefully consider both teachers’ pedagogical and personal beliefs to help them provide meaningful ICT use to their classrooms.

Groff and Mouza (2008) also argue that teachers’ beliefs play a significant role in shaping their classroom practice. Ertmer, Addison, Lane, Ross and Woods (1999) gave an example that many of the teachers in their study would not want to integrate ICT into their lessons even with sufficient resources if they believed that technology could not enhance their curriculum. Likewise, some teachers hesitate to integrate technology into their curriculum because they think that it would mean that they then have to take on many additional roles such as instructors, trainer, collaborator, coordinator, advisor, and monitoring/assessment specialist (Groff & Mouza, 2008). Moreover, they also think that their role as a classroom teacher could be challenged because they have less knowledge about the technological
applications than their students, thus they might need their students’ assistance in working with the applications (Bowman, 2004).

According to Dawes (2000), teachers’ personal beliefs concerning ICT are a major barrier to their use of ICT because it could potentially lead to another barrier, that is, teachers’ resistance to change. Ertmer (2005) argues that many teachers avoided using ICT in their classrooms because they did not want to change their pedagogy to adopt the technology.

What has been shown in recent literature is that positive beliefs concerning ICT are the kind of attitudes that seem to facilitate teachers’ use of ICT in education. As well, Rakes and Casey (2002) asserted that in order to successfully use ICT in their classrooms, teachers must have positive beliefs towards technology and thus be comfortable using them as teaching tools. In short, Mumtaz (2000) concluded that teachers’ beliefs were the decisive factors in their ICT use in the classrooms because they decide both content and pedagogy of the subjects being taught. The discussion now turns to the enablers to teachers’ use of ICT in the classroom.

**2.3.2 Enablers to teachers’ use of ICT.**

Literature suggests that there are three main enablers that could encourage teachers to use ICT in their classrooms – professional development, access to technology, and support from schools.

*Professional development.*

Professional development plays a significant role in teachers’ use of ICT in their classrooms because “technology is not a subject” and the focus of its integration is on pedagogy (Earle, 2002, p. 10). Results from Becker and Riel’s study (2000) show that teachers who regularly attend professional development sessions involving technology do not teach the same way as
teachers who do not usually attend these sessions. Their study also found that attending professional development sessions regularly could potentially change teachers’ teaching philosophy as well. It means that they would teach and use technology in a way that was akin to the theory they learnt during professional development sessions, they would use technology as a helping tool to promote cognitive and challenging tasks to the students, and they would also encourage students achieve knowledge beyond their classroom border into the broader community. Lastly, Becker and Riel concluded that the teachers who regularly attend professional development sessions would be able to help other teachers to become innovative users of ICT in their classroom.

On the other hand, Kopcha’s research (2012) revealed another significant role of professional development sessions in relation to the use of ICT in the classroom. His finding indicated that enduring professional developments sessions with quality mentors can help teachers to overcome other common barriers at schools. He also provided an example stating that access and teachers’ beliefs were popular barriers among the teachers in his study. However, with the help of mentored teachers during the professional development sessions, they had better understanding of the use of technology in the classroom and thus improved their beliefs and started using technology on a regular basis.

However, this raises another question: is having regular professional developments sessions sufficient to enable teachers’ effective use of ICT in their classrooms? Goktas et al. (2013) assert that the quality of these professional development sessions must be addressed before increasing their quantity because purely theoretical information is not what teachers need. Groff and Mouza (2008) agree, and noted that quality professional development sessions need to offer teachers sufficient time for training, experimentation, as well as follow-up support. They further add that these sessions also need to support teachers in terms of developing enduring alternative pedagogies and teaching strategies.
More specifically, Putnam and Borko (2000) emphasize that in order to obtain a quality professional development session, it is important that teachers actively participate in their learning. Also the learning must be put within the classroom context and the teachers must be treated in the way they are expected to treat their students, and last but not least, the teachers must be treated as professionals.

*Access to technology.*

Mumtaz (2000) argues that lack of access to technology can seriously limit teachers’ use of ICT in the classroom. According to a survey result from the BECTA report (Scrimshaw, 2004), access involves access to teachers’ own personal laptops, high quality resources, full access to quality software and hardware at all times and access to interactive whiteboards. Interestingly, the interactive whiteboard, which was discussed in a previous part of this chapter as one of the most popular ICT applications used in language classrooms, is considered by the teachers who participated in this survey as the biggest resource to ensure the effective use of ICT in the classroom for different subjects such as science, history, geography, and English.

Most schools in Victoria and Australia are equipped with a computer lab, which usually provides sufficient computer access to every student. However, according to Tondeur, Hermans, van Braak and Valcke (2008), computer labs are less effective because the integration of ICT in learning activities is interrupted and thus reduced because of the separation between computers and classrooms. Hence, the researchers suggest that to maximise teachers’ potential use of technology in the classrooms, the low student-computer ratio is very important.

On the other hand, Pelgrum (2001) and Zhao et al. (2002) claim that access to technology also means access to the internet. Zhao et al. provided an example that a teacher could not
undertake his project due to the poor connection to the network. He was frustrated because the institution limited his internet access and controlled the material posted on the institutional website. As a result, he withdrew from the project. In this case, Zhao et al. comment that although some schools do provide access to technology for teachers, they do not have easy access to it. Likewise, Zhao et al. gave another example that some schools had a computer lab but in order to have access to this lab, teachers had to compete with other teachers for their turn to use it. Hence, not only access but easy access acts as an important factor to ensure teachers’ effective use of ICT. On this matter, Mumtaz’s review (2000) shows that teachers working at schools where they have twice the average access to technology use it in their curriculum for many purposes.

In addition, Levin and Wadmany’ study (2008) reports that one serious problem regarding technological access at schools is that often the ICT applications available to the teachers are either not relevant or cannot be fitted into the curriculum, for example, the educational software is usually not relevant to the curriculum. Thus, to enable teachers to use ICT in their practice, having appropriate ICT applications is important.

**School support.**

The BECTA report (Scrimshaw, 2004) suggests that school support plays a crucial role in enabling teachers to use ICT in their practice. School leaders can provide support to teachers in various ways. In one Australian school, in addition to providing professional development sessions, the school leaders increased teachers’ attendance by offering salary award and full external certifications (Richardson, 2000). In addition, Tonduer et al. (2008) argue that teachers working at schools with clear ICT plans are usually using ICT more in their teaching. It means that to encourage teachers’ use of ICT, school leaders need to set clear goals regarding the school’s ICT implementation and assist teachers with practical strategies.
to achieve these goals (Tonduer et al., 2008). As well, Kennewell, Tanner, Jones and Beauchanp (2008) assert that along with these ICT plans, schools should provide teachers with an assessment and evaluation method to get a clear view of their ICT use.

On the other hand, as discussed earlier, time is one of the main barriers to teachers’ use of ICT, so to encourage this use, school leaders could also provide them with sufficient time. When the new technology becomes available to teachers, schools need to provide them with time not only to learn the technology but also time to develop teaching material and adjust their curriculum to make the full use of the technology (Beggs, 2000; Kopcha, 2012). In relation to time, Zhao et al. (2002) also suggest that schools should delegate more computer lab time to teachers so that they do not have to compete with other teachers to get more computer time with their students.

Schools can also encourage teachers’ use of ICT by providing them with necessary technical support. As discussed previously, some teachers do not want to use ICT because when problems occur, they have to wait for a period of time before support arrives, and a lot of their teaching time is wasted (Chigona & Chigona, 2010). The BECTA report suggests that reliable technical support from school is vital to teachers’ ICT integration (Scrimshaw, 2004). This report also recommended a number strategies schools should consider in terms of technical support to teachers, for example, encouraging the purchase of highly reliable technologies, improving systems for checking and maintaining classroom technologies, assuring that extremely rapid responses are made to breakdowns and a wide range of problems, testing new classroom technology setups before installing them for teachers, and documenting the technologies in each classroom.
2.3.3 Summary to Part 3.

This part of the chapter has reported on the barriers and enablers to teachers’ use of ICT in the classrooms. These are not specific to language classrooms. There has been considerable research into the barriers and enablers to teachers’ use of ICT in their classrooms. A large part of this research has been undertaken in school education cohorts from numerous countries including the United States, United Kingdom and Australia. There are different approaches to categorising or grouping the barriers by different researchers. This study discusses the barriers in two levels, the school level and the teacher level. The school level barriers include lack of time, lack of professional development, lack of accessibility, and lack of support. The teacher level barriers include teachers’ ICT proficiency and teachers’ beliefs.

It is important to carefully consider these barriers so that practical strategies can be developed to overcome and eliminate them. The main enablers to teachers’ use ICT suggested by literature are professional development, access to technology, and support from schools. In Chapter Four I will provide a detailed picture of how two Victorian Languages teachers use ICT in their practice and the complexity of this integration. Later, in Chapter Five, I will discuss this matter in light of the literature.
2.4 Chapter Summary

This chapter has reported on the research literature that enlightens this study. It begins with providing a detailed report on Australian and State policies and curriculum regarding Languages and ICT as a backdrop to the study. Next it explores a number of influential reviews about the use of ICT in language teaching and the popular applications being used in language classrooms world-wide. A large part of the literature suggests that technology has been used in language teaching as a tool to develop different language skills, not to develop the teaching and learning itself. The technology may strengthen the pedagogy only if the teachers and students engage with it and understand its potential in such a way that the technology is not seen solely as an end in itself but as another pedagogical means to achieve teaching and learning goals. Some of the most popular ICT applications being used in language classrooms are the interactive whiteboard, network-based social computing technologies, recording devices, and the latest technology, Robot-Assisted Language Learning.

In the last part of the chapter, though not specific to language classrooms, I discussed the barriers and enablers to teachers’ use of ICT in the classroom. The next chapter discusses the research design of the study.
Chapter 3: METHODOLOGY

In this chapter I describe the research design of the study, including the broad assumptions that I used to frame it, as well as providing detailed descriptions of the data collection and analysis methods. It is divided into a number of sections. In the first section I describe my world-view that frames this study. In the second section I describe the specific research questions, the choice of case study methodology, and the selection of the study site and participants. I then describe the data collection and analysis methods. Lastly, in the fourth section, I explore the ethical considerations in this study and its limitations.

3.1 The Researcher’s World-View

According to Creswell (2009) a world-view is a general orientation about the world and the nature of research that a researcher holds. In this study I adopt a constructivist world-view as defined by Creswell (2009), that is, one that is concerned with understanding the world around us, and thereby allowing for multiple versions of reality or multiple ‘truths’. As argued by Patton (2002, p. 96), “constructivists study the multiple realities constructed by people and the implications of those constructions for their lives and interactions with others.” Further, Creswell (1998) explains that social constructivists are individuals who seek understanding of the world in which they live and work, in order to develop subjective meanings of their experiences toward certain objects or things. Creswell (1998) adds that since there is no objective truth, meanings are always varied and multiple, and researchers with a constructivist world-view often look for the complexity of views rather than narrowing meanings into a few categories or ideas.

Guba and Lincoln argue (1989) that constructivists make several assumptions:

- There is no objective truth, rather ‘truth’ is constructed
• ‘Truth’ or ‘facts’ only have meaning within a particular value framework
• Cause and effect are not given, rather they are constructed
• All knowledge is bound by its context and cannot be generalized across settings
• Findings from a constructivist study are constructions and have no special status.

I believe this world-view enables me to best investigate the research problem around teacher use of ICT in the classroom and the factors that influence this use. Patton (2002) argues that different participants in any program have different experiences and perceptions of that program. Adopting a constructivist world-view, therefore, allows me to capture different experiences and perspectives of Languages teachers through open-ended interviews and observations, and to then consider the implications of these perspectives. However, as Patton (2002, p. 98) emphasizes, under a constructivist world-view, I do not seek to evaluate which set of perceptions is “right” or “more true” or “more real” because the purpose of a constructivist research is “constructing knowledge about reality, not constructing reality itself” (Shadish, as cited in Patton, 2002, p. 96).

A constructivist world-view has influenced me to conduct this study in a natural setting. As Creswell (1998) asserts, in order to understand the historical and cultural settings of the participants, researchers have to focus on the specific contexts in which they live and work. Creswell adds that understanding the historical and cultural settings of the participants is important for researchers because these settings shape the interpretation of their reality.

3.2 The Research Design

This section is concerned with explaining the initial conceptualization of the study, the research questions, as well as the selection of the research site and participants.
3.2.1 Conceptualizing the study.

Researchers usually have some notion of what they want to do when they begin to conceptualize a study (Miles & Huberman, 1994). From the start, I wanted to focus on how practising teachers used ICT in their Languages classroom. I was mindful, however, when conceptualizing this study that I brought to it my own views about using ICT in Languages classrooms. Though I had only taught for under a year, I was cognizant that teachers generally seemed to have difficulty working out how to use ICT in their classrooms, particularly those devices that were readily accessible. I saw some of these challenges first-hand.

I believe that ICT should be able to support teachers in their teaching and that it could help make their lessons more successful and more interesting. I was careful, however, not to let my own views interfere unduly with the study, given that all studies are influenced by the researcher to some degree. I focused on how these two individual teachers were integrating ICT into their practice, and was wary of judging them or their efforts to do so because of my own stance.

I was also concerned that teachers did not seem to be fully aware of recent government policies and initiatives regarding the teaching of Languages and the use of ICT. I knew that the Victorian government was placing more emphasis on the study of Languages in schools and that for the most part, these targets had not been met. This sparked my interest to investigate this further and to try to understand some of the challenges that teachers were facing that contributed to their use of ICT in the classroom.
3.2.2 Setting research questions.

From this initial identification of a ‘problem’ as well as personal interest in it, I then set about developing specific research questions to frame this study.

The three research questions that framed this study are restated below:

- How are teachers using ICT in the primary Languages classroom?
- What common ICT applications are being used and for what reasons?
- What barriers and enablers act to shape primary Language teachers’ use of ICT?

3.2.3 The qualitative nature of the research.

As stated above, the broad purpose of this study was to investigate how primary Languages teachers were using ICT in their classrooms. Given this focus, I thought a qualitative approach was a possible way of orientating this study.

A qualitative approach was selected as it:

1. Allowed me to work directly with participants within their specific school context and gather information about their thoughts and experiences (Yin, 1994).
2. Helped me to understand the complexity involved in their use of ICT and to understand more fully the social phenomena being studied before theorizing about it (Atkins & Wallace, 2012; Lichtman, 2011).
3. Enabled me to explore a central phenomenon that I was particularly interested in (Creswell, 2002; Lichtman, 2006; 2011; Merriam, 1998).
4. Gave me a flexible approach to the problem being studied (Creswell, 2002).

3.2.4 Selection of case study as the research strategy.

While Merriam (1988, p. 2) acknowledges that there is considerable debate around defining case study, she adds that it is a “basic design” that can accommodate a range of perspectives
about the nature of research, and she acknowledges that she adopts a qualitative or naturalistic perspective. Other researchers such as Stake also acknowledge the perceived value of case study to qualitative research (Stake, as cited in Denzin & Lincoln, 2000). To Merriam, a case study is “an examination of a specific phenomenon such as a program, an event, a person, a process, an institution, or a social group.” (Merriam, 1988, p. 9). It has a number of features or characteristics such as:

- Particularistic, that is, it focuses on a particular event or situation or problem or person
- Descriptive, in that the product that is produced emphasizes describing what is being investigated
- Heuristic, that is, it provides a means to shed light on the phenomenon under investigation
- Inductive, that is, that case studies emerge from concepts and hypotheses that emerge from the data itself.

A key feature of case study is that it involves a ‘boundaried’ case. As such it needs to have a boundary, to be separate so that it can be distinguishable from what it is not. A case study, therefore, needs to be “a fairly self-contained entity” and have “distinct boundaries” (Denscombe, 2007, p. 44)

I selected the case study method as I thought it would best enable me to focus on the “subtleties and intricacies of complex social situations” (Denscombe, 2007, p. 45). In this instance, it would give me opportunities to focus on the “how” (Yin, 2009) type questions, such as how do teachers use ICT in their particular classroom settings. As well, the case study method enables me to draw on multiple sources of data, such as survey and interview data in order to develop rich and detailed descriptions of teacher practice. Importantly, it enables me
to study my problem and my cases in detail. As identified in Chapter Two of this study, using ICT in learning and teaching is highly complex and influenced strongly by the local context. By using a case study method I was able to examine the problem in rich detail, helping to unpack the reality of the complexities that teachers face when trying to use technology. In addition, the case study method was suitable because it could be done by single researcher without recruiting a whole research team (Yin, 2009).

Merriam (1988) argues that there are three broad types of case study: descriptive, interpretive, and evaluative. This study ‘fits’ the notion of a descriptive case study because it provides a detailed description of Languages teachers' perceptions and use of ICT in their classrooms.

3.2.5 Selecting research participants and the site.

3.2.5.1 Research participants.

Participants.

“Sampling refers to the method used to select a given number of people (or things) from a population” (Mertens, 2005, p. 307). In this study, I chose to use “purposeful sampling” (Mertens, 2005, p. 317) to select teachers who could help me solve the problem I wanted to solve. Therefore, I needed to select teachers who were teaching Languages and who were also using ICT in their practice. Given my desire to develop rich and detailed case studies of practice, I decided to limit the number of participants. As Patton (2002) argues a small sample can more readily facilitate high-quality and in-depth descriptions of each case.

Initially I made a short list of possible school sites based on my knowledge of schools and schools identified by the DET website as using ICT in teaching Languages. I made a list of six schools that I thought could be useful to my study. I then wrote letters to each of the
principals of these schools inviting them to participate in this study. Two schools responded with interest. I then organised to visit these two schools and met the Languages teachers. I gave them an explicit invitation to participate in my study and both subsequently accepted.

In the next few paragraphs I introduce the two teachers I selected for this study. I provide some broad information about their teaching experience, qualifications, and their ICT knowledge and skills in an effort to introduce their stories that form the bulk of this study. I have been careful to ensure that I do not position either teacher as ‘better’, given that all teachers are different and that they have different experiences and perspectives, which are important for my study. I then move on to describe the two school sites at which these teachers taught. As is shown in this discussion, the two sites are both located in inner Melbourne with similar number of students, and similar socio-economic backgrounds. However, their ICT focus is different.

*The teacher: Kim.*

Kim is an enthusiastic teacher who is in her late 30s. She is passionate about integrating ICT into her teaching and holds a leading role in the region in terms of ICT integration in teaching Languages. Kim completed a Bachelor of Education (Primary) with a major in teaching Languages and has been teaching Mandarin for more than 10 years, some seven of which were at the school in this study.

*The teacher: Susan.*

Susan is in her 40s and has been a teacher for 28 years. She did not have any formal ICT training and was self-taught. Susan started her teaching career in Malaysia where she taught English for a few years and then she moved to Australia. She taught English as a second language in a TAFE institute for a few years and later completed a Bachelor of Education
(Primary) with Languages teaching as a major. Susan has been teaching Indonesian at this school site for 18 years.

3.2.5.2 Research site.

Schools.

Kim and Susan teach Languages (Mandarin and Indonesian) in two schools in inner Melbourne, Victoria. These sites were selected because they had teachers who met my selection criteria. Both primary schools have a multicultural community with students from Australian, European, Asian, African and Middle Eastern backgrounds. Below I describe each of these schools, providing further detail from the interviews with each of the teachers, artefacts such as school strategic plans and ICT plans, as well as schools’ websites. It is to be noted that I use pseudonyms in this discussion, so that these school sites are not identifiable.

a. Delta Primary School:

Delta Primary School located in the eastern suburbs of Melbourne. The school merged with another in 1997, following the restructure of two local primary schools. Delta Primary School has a stable population of about 600 students. At Delta Primary School, all students from Prep to Year 6 participate in one session of Languages (Mandarin) a week. In this session, the focus is on learning to communicate in Mandarin in a social setting with family and friends; listening, speaking, reading and writing in Mandarin; and developing an appreciation of and respect for other cultures. Delta Primary School believes that the development of communicating in another language and understanding and valuing other cultures is important for children to function effectively in our diverse society.

Delta Primary School participated in the National Asian Languages and Studies in Schools Program (NALSSP) ICT research project in 2010 and 2011 (DEECD, 2011b). The project
investigated using Web 2.0 and ICT devices to engage students to learn Mandarin, as well as to encourage other teachers to use ICT tools, and make connections with communities. In the second phase of the NALSSP project, the Languages teacher investigated the effect of iPads and online collaborative learning tools such as the Ultranet (a DET-wide secure intranet) on learning Mandarin.

At Delta Primary School teachers are encouraged to integrate ICT into their classroom programs as much as possible. Every classroom has an interactive whiteboard with access to computers. From Year 5, students participate in the 1:1 iPad program. Students purchase their own iPads and bring that to school with them every day and use them for different subjects during the day. Students always bring their iPads with them to their Languages sessions.

b. **Prism Primary School:**

Prism Primary School is situated in the northern suburbs of Melbourne. It is a new school, opening with 290 students in 1999 and growing to 770 students at present. In Prep and Year 1 students have Language Experience lessons, and from Year 2, they are introduced to Indonesian in one session per week. Prism Primary School believes that learning a language can nurture reflective, deep and creative thinking in specific ways. It considers that learning languages is important as it requires students to move outside the norms, practices and acquired behaviours of their first language.

Prism Primary School has a strong focus on integrating ICT in their curriculum. The school is well-equipped with a computer centre, interactive whiteboards (computerised) in every second classroom, PCs and laptops (1 per 5 students), iPads and iPods, and many other multimedia devices. All Year 5 and 6 students are in a 1:1 netbook program where they are funded for a set of netbooks (small laptops) to share between two classes.
3.3 Data Collection and Analysis

The section is concerned with the selection of methods for data collection and analysis. Although these processes are interconnected (Merriam, 1998; Patton, 1987), they are discussed separately for procedural ease, beginning with data collection and then followed by data analysis.

3.3.1 Data collection.

Qualitative case studies often use interviews, observation, and documents (Gillham, 2000; Patton, 2002) as sources for data collection. Interviews, often with open-ended questions, can enable the researcher to collect in-depth information about people’s experiences, perceptions, feelings, and knowledge about the problem being investigated (Patton, 2002). Observation can enable the researcher to document or describe the field work or the phenomenon under specific study (Creswell, 2002; Denscombe, 2007). Artefacts, such as official reports, plans and photographs, can give the researcher an insight into the context (Creswell, 2002; Denscombe, 2007).

In this study I chose these three common methods of collecting case study data and added a survey instrument. I chose to use a survey as the first form of data collection, to find out about the teacher’s demographics and ICT use. I followed this with non-participant observation to observe how the teachers used ICT in their classrooms. This was followed by semi-structured interviews, to give a deeper understanding about the teachers’ views about using ICT in their practice and to clarify any questions that the research might have. I collected artefacts, including school policy documents, throughout this research phase.
Table 2 summarizes the data collected for this study. The survey was administered in Term 2/2013, followed by the non-participant observation in Terms 2 and 3/2013, and one semi-structured interview with each of the teachers in term 3/2013.

Table 2

*Summary of Data Collection Process*

<table>
<thead>
<tr>
<th>Stage</th>
<th>Data Collection Method</th>
<th>Purpose</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Survey</td>
<td>To collect demographic information about the teachers and their knowledge and use of ICT in the classroom</td>
<td>Term 1/2013</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Non-participant observation</td>
<td>To observe how the teachers used ICT in their Languages classrooms.</td>
<td>Term 2 and 3/2013</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Semi-structured interview</td>
<td>To gain deeper understanding of the teachers’ views about using ICT in their practice</td>
<td>Term 3/2013</td>
</tr>
<tr>
<td>Throughout</td>
<td>Artefacts</td>
<td>To gain insight into documents such as policy documents that inform the teachers’ practice.</td>
<td>Term 2 and 3/2013</td>
</tr>
</tbody>
</table>

I discuss each of these data collection measures in further detail in the next section.

*Survey.*

I chose to use a survey instrument to gather information about the teachers’ knowledge and use of ICT, basing it on the e-potential instrument (DET, 2013). This instrument has been
used in schools for a number of years as a professional learning tool for teachers to support their use of ICT in practice. A key section of this instrument asks participants to nominate, from a selected list, the ICT applications that they use in their practice, and the frequency of use. The adapted instrument is included as appendix 5. I added a small section to the start of the survey to find out their age, their teaching qualification and experience.

**Non-participant observation.**

Observation can help researchers have a greater understanding of the case (Stake, 1995). Furthermore as suggested by Patton (2002), observational data can enable readers to have a greater understanding of the setting and as such the researcher needs to ensure that the data “must be sufficiently descriptive that the reader can understand what occurred and how it occurred” (p. 23).

I chose to use non-participant observation (Creswell, 2002) as a means to observe the two teachers teach in a non-obtrusive way. I developed an Observation Plan, which recorded details of the class I observed including: the grade, the number of students, the purpose of the lesson, the technologies being used, and details of the lesson itself (see appendix 6). I chose to make multiple observations in order to add to the richness of my data and to aid my understanding of each case. The classes I observed are listed in the table below. It is important to note that I observed the Languages lessons of different year levels from both of the schools because Creswell (2002) suggests that multiple observations can provide researchers with the best understanding of the case studies. I intended to observe Susan teaching on five occasions as I had with Kim. However, after two observations Susan indicated that it would be enough on her use of ICT in her Languages classroom.

<table>
<thead>
<tr>
<th>Table 3</th>
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<tbody>
<tr>
<td><strong>Observation Frequency</strong></td>
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</table>

91
<table>
<thead>
<tr>
<th>Teacher and School</th>
<th>Year level and number of classes observed</th>
<th>Total number classes observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prep</td>
<td>1</td>
</tr>
<tr>
<td>Kim at Delta Primary School</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Susan at Prism Primary School</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

_Semi structured interviews._

According to Creswell (2002), interview is equally popular with observation in data collection in qualitative research. He suggests that there are three basic types of interviews: Structured interviews, Unstructured interviews, and Semi-structured interviews (Creswell, 2002). This study used semi-structured interviews, which consisted of both close-ended and open-ended questions because I thought they would allow my participants to best express their views (Creswell, 2002; Patton, 2002). Thus, semi-structured interviews were conducted with the two Languages teachers to gather information about their individual perceptions and experiences in using ICT in their practice. As well, I thought this would enable me to provide “thick descriptions of experiences” (DiLuzio & Hiller, 2004, p. 6). I conducted one semi-structured interview with each of the teachers. The interview questions were a reflection of the themes set out in this thesis. In brief, they focused on teachers’ perceptions of the use of ICT in their Languages classrooms and how they integrated them in their practice (see appendix 7 for the interview questions).
I gave the interview questions to the teachers prior to the interviews so that they could be prepared for what was going to be discussed. I then organized to conduct the interview at a convenient time with each of the participants to ensure that I did not intrude on their workload. Prior to conducting the interviews, I practiced and checked the equipment I would be using in order to try to prevent any possible technical hiccups or low sound. I conducted the interviews at the respective school site. Each interview took about 30 minutes.

I opened each interview with a general conversation and tried to establish rapport with each participant to keep the interview running smoothly. During the process, I tried to gain trust from the participants (Fontana & Frey, 1994) and kept the interviews flowing. Towards the end of the interviews I asked the participants for confirmation of key points and reminded them that a hard copy would be forthcoming for them to check and to make changes as they saw fit. I then thanked each participant for their contribution and concluded each interview.

My intention was to take notes of the main points of both interviews. However, after the first interview with Susan, I found that it was not sufficient. As a result I decided to tape-record the second interview with Kim. I also took notes of the main points in case of technology failure. Later I transcribed the interview and word processed the field notes.

**Artefacts.**

I collected artefacts, which I thought could aid the research, throughout the data collection phase. From both sites I collected the schools’ Strategic Plans.

### 3.3.2 Data analysis.

Data analysis is the process of making sense of the collected data. In a qualitative case study as employed in this study, data is often collected and analyzed concurrently throughout the study (Merriam, 1988). Patton (2002) argues that one of the challenges of qualitative analysis
is making sense of huge amounts of data, and thus researchers need to reduce the volume of raw data, and identify significant information and patterns in order to construct a framework for communicating the central theme of the research.

With that in mind, I continuously analyzed data as I collected it. The data analysis process I used was guided by Bogdan and Biklen’s suggestions (as cited in Merriam, 1988). Firstly, I narrowed the data to avoid ending up with data that was too broad and unnecessary. Secondly, I reviewed my notes after each observation and planned for what to look for at the next observation. And lastly, while collecting data, I began to compare my initial findings with the literature, writing notes and comments as I went along so that I would not miss the important parts.

I decided to analyse data for this study by hand (Creswell, 2002) as I thought that I could manage it this way and did not think I needed to use a complex electronic system. I employed a “constant comparative analysis” method (Patton, 2002, p. 56) to break the data down into smaller elements. Each night I carefully checked my notes and compared them with my memory to make sure that they matched. I reread and broke data collected from observations, surveys, documents, and interviews down into smaller units and grouped them into different categories that represented particular phenomena as they emerged (Stake, 1995). I then compared the categories with my research problem and continued to compare until I was satisfied that my data was saturated. I repeated this process with each of the cases.

Any data analysis methods need to be accurate to allow the researcher to draw justifying conclusions (Creswell, 2002). In the following section, I discuss how I went about this in my study.
3.3.3 Criteria for judging the study.

I used a range of strategies to ensure the validity, dependability, transferability and confirmability of the study. These are described below.

Validity.

The need for accuracy in measuring things and logic in interpreting the meaning of those measurements are essential in any study (Stake, 1995). Validity or accuracy concerns how researchers can draw meaningful and convincing conclusions from the data. To ensure that the findings are accurate, I employed the member checking process (Creswell, 2002, p. 280) where the findings were sent back to the participants to check the accuracy of the case studies. Also, during the conversations with my participants, I regularly checked that my interpretations of events matched with their own.

On the other hand, data collected from interviews can be quite subjective. To ensure the validity of the study and reduce bias, the questions for the interviews were carefully formulated so that the meaning was “crystal clear” (Cohen, Manion & Morrison, 2007, p. 151) to the interviewees. In addition, I developed a rapport with the teachers so that trust could be established and the participants could be more open and honest during the interviews.

Dependability.

Dependability relates to the accuracy of a study. It means that if my study were repeated by another researcher with the same context, same methodology and same participants, the results would be the same (Shenton, 2004). To ensure the dependability of the study, I report my cases in rich detail so that readers have a thorough understanding of my study.
Transferability.

According to Merriam (as cited in Shenton, 2004), transferability relates to the ability of the results of one study to be practical in others. Shenton further stated that, although some would argue that the result of a small-scale study cannot be applied to a wider population, Denscombe (2007) and Stake (1995) asserted that each case is unique and so its transferability should still be considered. This study is a small-scale study, which involves only two Victorian Languages teachers. However, a detailed description of each case is provided to give readers a proper understanding of it so that it could assist others who aim to do further research in similar contexts.

Confirmability.

Patton (2002) noted that researchers must ensure that their findings are the result of the experiences and ideas of the research literature, not the characteristics and preferences of the researcher. He further argues that the role of triangulation in ensuring confirmability is very important. According to Denzin and Lincoln (2000), triangulation is the process of using different perceptions from different sources to clarify meaning of an observation or interpretation.

Data from my study was interpreted under several different perspectives. I examined evidence from different sources such as from the observation field notes, interviews, and surveys. Furthermore, data was constantly referred back and compared to the literature collected in Chapter Two for “confirmation” (Stake, 1995, p. 112) because I wanted to clarify if the Languages teachers’ teaching beliefs and perceptions were in common with the current literature.
3.4 Interpretation

This section is concerned with the researcher’s efforts to make sense of and draw conclusions from the data that had been gathered and analyzed (Patton, 1987).

3.4.1 Explaining the data.

The conduct of my study involved six steps:

1. Developing a framework for the study by deciding the key themes and topics and putting them in order.
2. Conducting literature review according to the order of my key themes.
3. Obtaining ethics approval from RMIT and DET, then sending out invitations to schools and their Languages teachers.
4. Conducting interviews and observations at the schools, collecting the surveys.

5. Reporting on the two case studies, analysing the results, then comparing with the key themes and literature to gain a greater understanding of the use of ICT in Victorian primary schools.

6. Drawing conclusions and providing recommendations.

3.4.2 Ethical considerations.

I ensured that ethical considerations were taken into account. To ensure the interviewees’ anonymity, I assigned pseudonyms. I carefully explained the interview purpose and the process that would be used and informed participants that they could withdraw at any time. During the interview, I also advised the participants that they could refuse to answer questions they thought could pose risks to them. I also reminded them that the data collected from the interview would be kept in a safe place, and would be destroyed after seven years.

DiLuzio and Hiller (2004, p. 7) suggest that conducting interviews with people to collect information about themselves could be “time consuming, privacy endangering, and intellectual and emotionally demanding”. I have understood that and fully respected all of the participants’ needs. Plain language statements were sent to the participants to inform them about their important roles in the study and their right to withdraw from the study at any time if they wished (Creswell, 2002). In addition, pseudonyms were used to protect the identities of the participants in accordance with general ethnographic practices.

This research has received formal permissions from the RMIT University Human Ethics Research Committee and the Department of Education and Training (see appendices 1 and 2). In addition, participants were provided with a plain language invitation to the study (see
appendix 4), which explained the purposes of the study as well as the survey and interview. Data collected was stored in securely locked facility at my home.

3.5 Limitations

The focus of this study was on the integration of ICT in teaching Languages in Victorian primary schools. Although it is hoped that the current study will provide valuable insights for both Languages teachers and primary education sectors who are interested in ICT integration, there is scope for a broader study that captures the state of play across primary and secondary boundaries. Specifically, the characteristics of the study context and the study participants may not be fully representative of the broader sphere of all Languages teachers across Victoria. A challenge for future researchers is to investigate a bigger number of Languages teachers across a range of primary schools, including private and catholic schools in both rural and urban areas.
3.6 Chapter Summary

This chapter has reported on the research process selected for the study. It began by discussing the researcher’s world-view, which influenced the overall design of the research. Then it moved to explore the selection of case study as the framework for this study. As well, it discussed the data collection methods selected, including the use of interviews and the data analysis methods selected, including coding and categorization. Finally, it included discussion of the interpretation phase of the study, including methods used to ensure its trustworthiness.

The research method employed for this study is a qualitative approach with descriptive case study method, as it sought to describe and understand the phenomenon of integrating ICT in teaching Languages in primary school practice. I believe that this is “good education research” (Yates, 2004, p. 17) because the topic is practical and “useable by teachers” (p. 20). A qualitative approach was employed as it allowed me to work directly with participants within their context and gather information regarding their specific thoughts and experiences (Yin, 1994). The data collection process started with the survey to give some background information about the teachers and their teaching beliefs, classroom observations were conducted next to find out how the teachers executed their beliefs in their teaching, and lastly, I interviewed the teachers to get a deeper understanding about the teachers’ views about using ICT in their practice and to clarify any questions that the research might have. This study has received formal permissions from the RMIT University Human Ethics Research Committee and the Department of Education and Early Childhood Development. I also explained the steps I took in conducting this study.

The limitation of this study is that it was done with only two teachers, therefore, the characteristics of the study context and the study participants may not be fully representative of the broader sphere of all Languages teachers across Victoria. Moreover, Stake (1995)
comments that qualitative studies are subjective; although the findings are in depth, they are not generalizable due to the subjectiveness of the data.

In the next three chapters, Chapters Four, Five and Six, the two case studies will be described and discussed in detail, as well as the findings from the interviews, surveys, and observations. The findings are compared to the study’s aims, together with conclusions and recommendations related to integration of ICT into the Languages curriculum in Victorian primary schools.
Chapter 4: FINDINGS

4.1 Introduction to Chapter

This chapter reports the findings of this study, in the form of two case studies in order to demonstrate a detailed and up-close picture of teacher practice regarding ICT in Languages classrooms. Each case study is described in turn and involves these elements:

1. An introduction to the case (the teachers and the schools) drawing from survey data and artefacts
2. Views of ICT in teaching Languages using interview and survey data
3. Use of ICT in teaching Languages drawing from survey data, interview and multiple observations.

As discussed in Chapter Three, this study used several means to collect data. These were surveys, multiple observations, and interviews. The survey was divided into three sections. The first section collected demographic information about the two teachers. The second section collected information about their expectations and experiences regarding the use of ICT in the classroom. The third section asked about their knowledge, level of skill and their actual and intended use of the common ICT applications. A single interview was conducted with each teacher, which focused on their views about using ICT in teaching, barriers to using ICT and how they used ICT in their practice. Data also included multiple observations of the teachers teaching using ICT in their Languages classrooms. Finally, artefacts from the schools such as their Strategic Plans were collected.
4.2 Case Study 1

4.2.1 Introducing Kim.

Survey data showed that Kim is a female teacher in her late 30s. She has a degree in primary education with a specialism in Languages teaching. Kim is a highly experienced teacher having taught for 13 years in two primary schools, including the school in this study. She has taught for seven years in this current school. In recent years she has occupied a voluntary leadership position in her region supporting other teachers in relation to the teaching of Languages and using ICT in their practice. Suffice to say, Kim is a leader in both these areas. At the time of this study, she was the Languages specialist in the school and taught Mandarin to students from Prep to Year 6. Indeed she taught all 600 students at this school.

4.2.2 Introducing Delta Primary School.

Kim taught at Delta Primary School, which is located in the eastern suburbs of Melbourne. According to the school’s Strategic Plan, Delta Primary School was first established in 1972. At that time, most of the local community was of European descent, with a large number from Germany. In 1997 the school merged with another primary school to become Delta Primary School. Since then it has grown with an increasing number of enrolments.

Over the last 15 years the demographics of the school have changed, as a result, the school now has a mixed community from a variety of social and cultural backgrounds. Delta Primary School has a stable student population of about 600 with a high percentage of students from Asia, mainly from China.

ICT context.

According to the school’s Strategic Plan, it is a well-resourced school, especially with technology applications. Every classroom has an interactive whiteboard that connects to
teacher’s laptop. As discussed in Chapter Two, all Victorian teachers and principals are expected to have their own laptops to use in the classrooms through the DET’s notebook leasing program (DET, 2013). There is a computer laboratory on site with 30 desktop computers, which are being updated every three years. There is a wireless network provided by the DET throughout the school. Teachers at Delta Primary School are encouraged to integrate ICT into their classroom programs as much as possible to ensure authentic learning.

In the Languages classroom, there is a set of 19 iPads that are used for Prep to Year 4 students. From Year 5, students participate in the 1:1 iPad program (DEECD, 2010b). Students purchase their own iPads and bring them to school every day and use them for different subjects throughout the day, including in their Languages sessions.

**Languages context.**

At Delta Primary School, all students from Prep to Year 6 participate in one session of Languages (Mandarin) a week, which is in line with the Victorian government requirement of compulsory study of Languages for all students in P–10. As mentioned previously, these classes are taught by Kim. Due to the large number of students from Chinese-speaking families, the school requires that from Year 4 onwards, students are organized by level of ability. Students from each year level are divided into three groups according to their language competency and come to the Languages sessions in their levels. These are: Discovery (Beginning level), Challenge (Intermediate level), and Reach (Advanced level).

Delta Primary School participated in the National Asian Languages and Studies in Schools Program (NALSSP) ICT research project in 2010 and 2011 (DEECD, 2011b). The project investigated using Web 2.0 and ICT devices to engage students to learn Mandarin, as well as to encourage other teachers to use ICT tools, and make connections with communities. In the second phase of the NALSSP project, the Languages teacher investigated the effect of iPads
and online collaborative learning tools such as the Ultranet (a DET-wide secure intranet) on learning Mandarin. Kim was the teacher who participated in this project. This reinforces the point made earlier that she is a highly experienced and skilled Languages teacher.

Delta Primary School has a strong focus on using ICT in all subject areas including Languages. It has an iPad program to support this use. As well, the school has participated in a national project and as a result, it is likely that Kim might have benefited.

4.2.3 Kim’s views of ICT in teaching Languages.

The second section of the survey asked Kim about her ICT expectations and experiences. Kim replied that she thought that ICT has become an integral part of students’ daily life. She thought that ICT was an engaging teaching tool, which she used to inspire students to learn Languages.

The interview that I conducted with Kim midway between my observations of her teaching was the main form of data collected around her views of ICT in teaching Languages. In this interview Kim suggested that she is a strong advocate for the use of ICT in Languages classrooms. However, she also commented that this was “a personal thing” (L. 3) and that if she did not “find it good enough to use, I don’t do it” (L. 2 & L. 3). It was interesting in this interview that when asked about ICT, Kim spoke about iPads and did not give any attention to other forms of ICT applications that could be used in the Languages classroom. However, the reasons for her emphasis were not explored by the researcher. It is likely that it was because she mainly used the iPads in her Languages classroom.

When asked about her reason for using ICT in her classroom, Kim indicated a number of reasons. First, she suggested that ICT was “engaging” (L. 12), commenting that “it helps to get the students on task to do their work” (L. 12). Second, she commented on the mobility of iPads. As she elaborated, in relation to Year 5 and Year 6 students having their own iPads,
she thought that “whatever work I want them to do, they can go home and do it” (L. 14). Third she commented on how she thought students’ use of iPads fostered parental involvement in students’ learning as it enabled them to “know what their children (are) doing” (L. 18). She emphasised this view stating that in the past parents would typically ask her “How’s my kid doing?” (L. 25 & L. 26). But that with the iPad program, this conversation had shifted with parents now asked “How can I help my child and myself to learn Chinese?” (L. 29 & L. 30). As she went on to say, while some parents did not know what language their child was speaking, they were interested in finding out, asking “What are they speaking?” (L. 31). Furthermore, she commented that some parents as a result are “actually learning how to use the iPad as well, on their own” (L. 19). Closely related to this, she also spoke about “community benefits”, that she thought that iPad use was “convenient to get involved the parents and community” (L. 23 & L 24).

Kim also spoke about what she saw as the limitations in using ICT in Languages teaching. She gave two broad reasons. The first related to the speed of the internet connection at the school. She commented that “the broadband is slow” (L. 35) and “the running of the internet will jeopardise the willing” (L. 36), also “slow broadband does not allow running a smooth program” (L. 44). The other limitation related to parents. As reported earlier, Kim considered parental involvement as an important benefit in using ICT in Languages classroom. However, she commented that some parents “don’t allow their children to have e-mail addresses” (L. 45 & L. 46). While she thought this was “fair enough” (L. 46), she also commented that this then meant that the students could not “send their work to me when I’m asking” (L. 50), which she saw as “a big limitation” (L. 47 & L. 48) and that these parents “have to think twice about what you are doing” (L. 51).

Thus Kim’s interview indicates that she strongly supports the use of ICT in her Languages classroom because of many reasons. However, she also commented that there were two
factors that limit her use of ICT, these being the speed of the school’s internet connection and parental involvement. The following section provides more details on Kim’s use of ICT in her Languages classroom, including a report of the six classroom observations that I had with Kim.

4.2.4 Kim’s use of ICT in teaching Languages.

In this section I report Kim’s use of ICT in teaching Languages drawing from survey and interview data as well as my observations of Kim in the classroom.

The survey asked Kim to rate her knowledge and level of skill in relation to a number of ICT applications. As discussed previously in Chapter Three, this survey used items adapted from the ePotential survey (DEECD, 2009), an instrument widely used as a professional learning tool by teachers in the state of Victoria. Kim indicated a high level knowledge of many technological applications. Indeed she responded “Yes” to each of the 27 listed applications. In relation to the question asking the level of skill in using the listed applications, she responded overwhelmingly positively. Of the 27 applications she indicated “a lot” to 24, which is 89%. For only 3 applications she indicated “some”, these being interactive whiteboard, netbooks and ebook reader. Thus, it would seem that not only does she have high level knowledge of the applications but also high level skill in using them.

Of the 24 applications for which she indicated high level knowledge, she indicated she had used only 20 of them in her teaching in that year. She indicated she intended to use another one later in the year – the DET website. Five applications she did not respond to – Ning, online conferences, gaming consoles, digital cameras and netbooks. Later in the interview, Kim revealed that the school was not part of the Netbook trial (DEECD, 2010a) and this most likely explains her non-use. As well, she said that as an iPad school, students used in-built cameras and so did not require a separate digital camera. While the survey also asked her to
indicate which grade she had used or intended to use these applications with, Kim only responded to some. Reasons for her action were not included in this study.

When it came to reporting on where she developed her ICT skills, Kim stated that “some” of her ICT skills were learnt from profession development sessions and her personal life, “a little” from her Teacher Education Program and prior work experiences, and “not at all” from her prior study. As well, Kim said that in general, she is satisfied with her ICT skills. However, she would like to learn more about the use of “iBook Author” program so that she could create eBooks for her students.

Regarding Kim’s experiences of using ICT in her practice, Kim revealed that she mainly used the iPad applications and some social websites such as “todaymeets.com” and “Edmodo”. She further explained that she used these websites because they allowed her to communicate with her students beyond the classrooms. In order to help her to effectively integrate ICT into her practice, Kim suggested that the school should equip her with a MacBook Pro computer and also allow Year 3 and 4 students to join the 1:1 iPad program. As for the government, Kim suggested that schools should be provided with a faster and more reliable internet broadband network.

In addition, when being asked in the interview if there were other ICT applications she used in her Languages classroom, Kim replied that she also used the interactive whiteboard, which was broken and was not able to be used. However, she commented that she could not make full use of the interactive whiteboard because it “does not support Chinese language” (L. 76). Lastly, Kim also stated that she mainly used iPads in her Languages classroom across all the year levels from Prep to Year 6.

I observed Kim teaching on five occasions, once with Prep, once with Year 1, once with Year 5 and twice with Year 6. Each time this observation occurred in the specialist Languages
classroom designated by the school. Each observation was of a single lesson of 50 minutes. Chapter Three provides this information in table form.

Kim’s Languages classroom is a separate classroom located towards the front of the school. She is the only teacher who uses this room. The room is equipped with a reasonable level of access to technologies. A class set of 19 iPads is stored in the storeroom, at the side of her classroom, where she charges them overnight so that they can utilized each day. These iPads are loaded with a range of applications suited to Languages learning. For example, Chinese Writer, Book Creator, Puppetpals, Explain Everything, QR Codes, etc. She also has a large-screen TV that is connected to an Apple TV. This Apple TV allows her to show everything that is on the iPads on the large-screen TV. Kim commented that this is used for demonstration and whole-class sharing purposes. Kim also has an interactive whiteboard in her classroom. However, at the time of this study, her projector was broken and was not able to be used.

Below is a map of her classroom.
Discussion now turns to individual reporting on each of the 5 observations.

**Observation 1.**

In observation 1, I observed Kim teaching a Year 1 class of some 21 students. Her focus for the lesson was on reinforcing general greeting vocabulary, which she had introduced to them in the previous lessons.

At the start of the lesson, students came into her classroom and sat down on the floor in front of Kim. Kim began the lesson by marking the roll and greeting the students in Mandarin. After that, Kim started singing a few familiar Chinese children’s songs with the students. Then, while the students were still on the floor, Kim handed out an iPad to each student. There was no record kept of which students received which iPad. Because there were only 19 iPads, four students had to work in two pairs to share the iPads. Kim then instructed them to open the recorder application by showing them step by step via the large-screen TV. As mentioned earlier, Kim’s TV is connected to the Apple TV, which allows her to show the students everything on her iPad. Next, Kim started to count from one to 10 in Mandarin and recorded it into her iPad. Kim then listened to her recording again to make sure that she was happy with it. After her demonstration, Kim asked the students to do the same, except they kept on counting as many numbers as they could. There are seven students from Chinese-speaking families in this class, so Kim asked them to choose five big numbers and record them. Kim told the students that they were allowed to record as many times as they wanted until they were happy with the recording piece, and that students had to say their names in the last recording so that she could know who it was from. Students had about five minutes to finish the task. Kim later revealed that she wanted to use these recording pieces for assessment purposes. After the task, Kim asked the students to close the iPads and put them on the floor next to them.
In the lesson proper, Kim began by demonstrating how to conduct a simple greeting. So she started to have this conversation with individual students in Mandarin:

- Hello
- How are you?
- I am well/ OK/ not well
- Thank you.

Once Kim had included all students, while students’ iPads were still on the floor, she then introduced the task they would be undertaking for the rest of the lesson. This included creating a short animation clip using “Puppetpals HD” application on the iPads. Next, Kim opened her iPad and started to demonstrate the task to the students. Kim opened the application called Puppetpals HD. She chose two puppet characters from among the provided characters in the application and created a short video clip. In this clip, Kim created a short conversation between the two characters using the greeting vocabulary that she had previously used with the students. Kim then showed the students her clip on the TV and told them that this was what they had to do with their iPads. The two pairs of students who had been sharing two iPads were asked to hand them to two different pairs so that they could have access to their own iPad on this task. Similar to the previous activity, students were allowed to record as many times as they wanted to until they were happy with the results. Students were given about eight minutes to finish the task, then Kim asked them to delete their unwanted clips.

At the end of the lesson, Kim asked each student to share their clip by screening it on the classroom TV via Apple TV. During this shared time, Kim corrected students’ mistakes and gave them positive comments. After this, she instructed them to hand back the iPads and line
up to go back to their classroom. Kim said “Good bye” in Mandarin to the students before handing them back to their teacher.

**Observation 2.**

Observation 2 occurred immediately after the first observation. In this second observation, I observed Kim teaching a Prep class of 19 students and her focus was similar to the previous lesson.

Just like in the previous lesson, after the children had come in and sat on the floor, Kim began the lesson by marking the roll and greeting the students in Mandarin. Then, Kim taught them how to sing a short song by asking them to sing it after her sentence by sentence. After the students had repeated the song after her twice, Kim asked the whole class to sing with her for the first time. Kim then asked the students to sing with her, and she recorded it on the second round. After that, Kim played the song back for the whole class to hear and asked them if they were happy with it. Students said they were not happy because they could not hear it clearly as not all of them sang together in tune. Kim said they would record it again and asked them to sing loud and clear together. She then sang with the class one more time and recorded it onto her iPad. Next she played the song for the students to listen to again and asked if they were happy this time. They agreed.

Kim then moved to the lesson proper. She put students in pairs and handed out an iPad randomly to each. Kim then asked them to keep the iPads closed and leave them on the floor. Later, after the lesson, she told me that she did this so that they could not be distracted and would focus on her instead. Kim then picked up one of the remaining iPads from the pile and connected it to her TV via Apple TV. She showed students how to open the photo application, which contained a short animation clip that had been made by her Year 1 students in the previous lesson using Puppetpal application. Students watched the animation
together, laughing frequently. Kim then repeated the conversation in the animation and used hand gestures to explain the meaning of it. Later that day, Kim explained to me that she did not usually translate the words into English, rather she used hand gestures and facial expressions instead, except for some complicated words. Kim then showed the students another two animations. Then she asked the students to repeat after her three conversations using three different scenarios:

- Hello
- How are you?
- I am well/ OK/ not well
- Thank you.

Again, Kim used hand gestures to help with explaining the meaning of the vocabulary. She then instructed students to open their iPads to the photo application. Students were asked to watch the animations and then practice the conversation with their partners. Students had around five minutes to do so. Next, Kim asked the students to close their iPads and pay attention to her. She then practiced the conversation with individual students, after she had asked most in the class, she invited them to perform with their partners in front of the whole class. All students raised their hands quickly indicating their interest in participating in this task.

In the next part of the lesson, Kim turned her focus to writing simple numbers. Kim asked students to open their iPads and pay attention to her. She then instructed the students to open the “Explain Everything” application on their iPads and to copy the steps she made using her iPad. Kim showed the students to open up to the number writing section and started tracing the writing in Chinese line by line. The students who were still in pairs copied her taking turns. Kim traced two numbers initially. When it came to the third number, Kim
started tracing from the middle of the word intentionally so that the application would let her know that she had made an error by flashing at the point she should have started at. She then explained to the students that if they saw a flashing point, it meant they had started at a wrong spot and had to start again at the flashing point. Students were asked to take turn and work with their partner for the last five minutes of the lesson. Students were allowed to work on the floor or at the tables. In a conversation after the lesson, Kim revealed that Chinese writing requires us to start at a certain point and it has to be from the left to the right.

At the end of the lesson Kim asked each pair to carefully hand back the iPad and line up at the door to get ready to be picked up by their classroom teacher. When receiving the iPads from the students, Kim stacked them up neatly in a pile next to her on the floor and then said “Good bye” to the students.

Observation 3.

Later that week, I did my third observation with Kim, in which she taught a Year 5 “Reach” group of 28 students about descriptive vocabulary. As mentioned earlier in this chapter, from Year 4 onwards, students at Delta Primary school are divided into 3 groups according to their levels: Discovery (Beginning), Challenge (Intermediate), and Reach (Advanced). As well, from Year 5 and 6, students participate in the 1:1 iPad program. At the start of the school year, Kim sent home to the parents a list of applications that she had chosen to support students’ Languages learning at school and parents were required to purchase and download these applications into their children’s iPads. However, as I observed, not all parents followed this request and on occasion a student needed to use other applications to undertake class work. Hence, all students from this group came to the Languages classroom with their own iPads loaded with all the necessary educational applications.
As usual, after the students came in and sat on the floor in front of her, Kim started to mark the roll and greet the students. Students put their iPads on the floor next to them. Kim then opened her iPad and showed the students an e-book fairy tale “Sleeping Beauty” in Mandarin on her TV. The students watched it for around 10 minutes. After watching the story together, Kim asked the students comprehensive questions about the story. Both questions and answers were spoken in Mandarin.

In the lesson proper, Kim instructed students to open their iPads while she was opening hers at the same time. Next, she asked students to access the “Explain Everything” application, which she had used with Prep students previously, and if any students were unsure of what to do, they could look up at Kim’s iPad on the classroom TV. Kim then explained the task to the students, which was to create a set of “Who am I?” question and answer by using “Explain Everything” and QR code applications. Students were required to use descriptive language to describe a character from the story “Sleeping Beauty”, then students had to put their answer with a QR code so that if someone scanned the code, the answer would come up. Students were given 15 minutes to complete this task. They were allowed to work on the floor or at the tables, and while they were working, they could come to Kim to ask her if they if any questions.

At the end of the lesson, Kim asked the class to put their iPads on the floor and look at the TV. She showed them a music clip from her iPad. The song was about the fairy tale “Sleeping Beauty” and it was in Mandarin with subtitles. Kim asked the class to listen carefully and to look at the subtitles at the same time. She paused the song in between the sentences to discuss and explain the story as it went. After the song finished, Kim told the students to e-mail her their work from home when they had completed it. Kim then said “Goodbye” to the students and they were picked up by their classroom teacher. Kim later
revealed to me that her intention in showing the students the song was to provide them with more descriptive words about the characters of the story.

**Observation 4.**

My fourth observation with Kim was with a Year 6 Discovery group of 25 students. As with the Year 5 students previously, she chose to use the “Sleeping Beauty” story as a focus of the lesson.

As usual, after coming in, the students sat down on the floor and put their iPads next to them. After marking the roll, Kim began to screen the “Sleeping Beauty” e-book on her iPad via the Apple TV. When finished, she asked the students to open their iPads and access the “Explain Everything” application. If students did not have that application on their iPads, Kim asked them to use the “Educreation” instead. Then she asked them to copy the three Chinese words that she wrote slowly on her iPad so that they could copy line by line. Kim later told me that these three words were the three characters from the story. After the students finished writing the words, Kim put some picture clues about the characters next to the words. Starting with the first word, Kim pronounced it out loud and asked the students to repeat after her. From using the picture and the modelled pronunciation, students could estimate that the first word was “Princess”. Kim repeated the procedure with the second and the third word. Then she asked the students to go online and search for different pictures about these three characters and put them next to the words, giving them 15 minutes to do so. While students were working on the task, Kim put the song about “Sleeping Beauty” in Mandarin on for them to passively listen to.

Kim then asked for the students’ attention and invited them to share their work with the whole class, via screening on the classroom TV through Apple TV. Kim asked five students to share their work but this was constantly interrupted because internet connection was poor,
and the students as a result had to connect their iPads to the classroom TV again. After the lesson, Kim told me that this type of technical situation happened very often during class time, and that as a consequence, a lot of her teaching time was wasted. Kim also commented that she could have had more students sharing their work if the internet connection was sound. After share time, Kim asked the students to record their pronunciation of the three characters and e-mail it to her.

At the end of the lesson, Kim asked students to go on the “Chinese Writer” application and practice writing, which they did for five minutes before they went back to their classroom.

**Observation 5.**

My last observation with Kim involved another Year 6 class but this time it was with a Reach group. There were 20 students in this group. Like the previous two lessons with the Year 5 and 6 classes, Kim used the “Sleeping Beauty” e-book story as a focal point.

After her usual routine, Kim shared the e-book story for 10 minutes and then asked the students comprehensive questions about the story with both questions and answers required in Mandarin. After a further five minutes, Kim showed the students the “Sleeping Beauty” music clip from her iPad, screening it onto the TV. It was in Mandarin and had subtitles. Kim paused a few times in between the clip to discuss the flow of the story and the word choice of the song with the students. Occasionally, she pointed to certain words and asked students their meanings. Later she told me that it was also a way of building up students’ vocabulary.

For the main part of the lesson, Kim asked the students to open their iPads and access the “Popplet” application, or the “Simple Mind+” application. She then asked them to make two flow charts, one about the whole story of “Sleeping Beauty” and the other about a character from the story. Kim told the students that they were allowed to use some English in their first draft, however, they would have to try to translate it all in Mandarin in their final product.
Kim did not demonstrate the task. While the students were working, Kim explained to me that she did not usually have to demonstrate to this Year 6 group because they were familiar with a majority of the applications she used in the class, and if they were not sure, they would either ask their friends or her. The students were given the rest of the lesson to complete the task. At the end of the lesson, Kim asked the students to finish it at home and then e-mail it to her.

These observations with Kim suggest that she used ICT with every year level in the school. The technology device that she used the most in her lessons was the iPads, which included her iPad and the students’ iPads. Kim used a variety of applications on the iPads such as Explain Everything, Simple Mind+, Popplet, Puppetpals, QR Code, and other built-in applications such as Voice Recording and Video Recording. Explain Everything is the application that Kim used the most across all the year levels. She also used a large-screen TV, which connected to Apple TV for demonstration and sharing purposes.

4.2.5 Conclusion.

This case study has reported on Kim, a Mandarin Languages specialist teacher at Delta Primary School, which has a strong focus on using ICT in all subject areas including Languages. Kim is a highly experienced and skilled teacher, who regularly uses ICT applications in her classroom. Kim thought that ICT has become an integral part of students’ daily life and that it was an engaging teaching tool, which she used to inspire students to learn Languages. In the interview, Kim suggested that she is a strong advocate for the use of ICT in Languages classroom. She stated three main reasons for her use of ICT in the classroom. The first reason was that she found it engaging; second, it was mobile; and third, it involved parents and the community into students’ learning. However, Kim also commented on aspects which she considered as limitations to her use of ICT in her Languages classroom, the
school’s slow internet connection and parents not allowing their children to have e-mail addresses to send her their work.

In relation to Kim’s use of ICT in her Languages classroom, the survey asked Kim to rate her knowledge and level of skill in relation to a number of ICT applications. Kim indicated a high level knowledge of many technological applications by responding “Yes” to each of the 27 listed applications. As well, she indicated high level knowledge of the 24 applications. For only three applications she indicated limited knowledge, these being interactive whiteboard, netbooks and ebook reader. Thus, it would seem that not only does she have high level knowledge of the applications but also high level skill in using them.

In her class, Kim adopts several routines, including requesting the students to enter the classroom and sit on the floor to await instructions. Each lesson has a focus, which involves a task that usually requires the use of technology. In the lessons observed, Kim mostly used iPads with a range of applications and a TV connected to Apple TV for sharing purposes. She used iPads with students from Prep to Year 6.

4.3 Case Study 2

4.3.1 Introducing Susan.

Susan is a female teacher in her mid-40s. Like Kim, she has a degree in primary education and is also a Languages specialist. She is also a highly experienced teacher, having taught for nearly 20 years, initially in adult education but lately in primary education. She has taught in only one primary school, this being the subject of this study, and has taught here for 15 years. She teaches Indonesian to Year 2 to Year 6 students. All together she teaches 500 students, which is similar to the number of students taught by Kim.
4.3.2 Introducing Prism Primary School.

Prism Primary School is situated in the northern suburbs of Melbourne. Like Delta Primary School, it had a long history and changed name on several occasions. It was first opened in 1877 and was closed from 1895 to 1902 due to the depression, reopened again from 1903 to 1998. And then in 1999 became Prism Primary School. Since then it has grown significantly from 290 students to 777 students in 2014. The school’s Strategic Plan indicated that Prism Primary School has students from a large variety of social and cultural backgrounds with 31 nationalities presented.

ICT context.

Prism Primary School has a strong focus on integrating ICT in their curriculum. According to the school’s Strategic Plan, one of its key strategies is to support students’ engagement and learning across the school through the use of ICT, including the use of new technologies as they become available. The school has a computer centre with around 30 desktop computers, interactive whiteboards (computerised) in every second classroom, PCs and laptops (one per five students), iPads and iPods. From Prep to Year 3 students in each classroom have access to desktop computers (one per five students). Students in these year levels also have access to a bank of iPads. Students in Years 4, 5 and 6 share access to netbooks, which was funded as part of the DET state-wide trial. This results in a 1 to 2 ratio. The school also has a wireless network provided by DET. While students at Prism Primary School have a similar level of access to mobile ICT devices as Delta Primary School, in reality their access is actually less because these devices are only used in main classrooms, not in the specialist Languages classroom.
Languages context.

At Prism Primary School, students start learning Indonesian from Year 2. This is different from Delta Primary School where students commence in Prep. In Year 2 and Year 6 students participate in one Languages session per week for one semester a year. Students in Years 3, 4 and 5, however, participate in one weekly Languages session for the whole year. From a later conversation with Susan, it would seem that this arrangement was for convenience, as she could not teach all year levels weekly for the whole year because she had other teaching responsibilities.

4.3.3 Susan’s view of ICT in teaching Languages.

Like Kim, Susan also believes that ICT plays an important role in her Languages classroom. Susan commented that she thought it not only assisted students with their learning but also assisted her with her teaching activities.

My interview with Susan was conducted after my second observation with her. As stated previously with Kim, the purpose of the interview was to collect data around Susan’s views of ICT in teaching Languages. In this interview, Susan suggested that ICT played a significant role in the classroom because “ICT is very important for students’ learning” (L. 2). When asked about her reasons for using ICT in her classroom, Susan indicated a number of reasons. First, she stated that it allowed students to do their research, “they can use the iPad or the computers to search for information” (L. 3). Second, she commented that it let students “work at their own pace” (L. 4). Third, Susan commented that she used ICT in her Languages classroom because it allowed students to monitor their own progress. As she elaborated, Susan commented that she usually used the “Languages Online” website during her lessons. This website is a free resource for language teachers and students provided by DET. With this website, “students can do the activities and monitor their own progress” (L. 5
Susan further stated two other reasons for her use of ICT. She commented that she frequently played international music for the students to passively listen to while they were undertaking their tasks “to create a relaxed atmosphere for the class and also for students’ cultural awareness” (L. 7 & L. 8). She also stated that she used her iPad to record students’ performances for assessment purposes.

As for what she saw as the limitations in using ICT in Languages teaching, like Kim, Susan gave two broad reasons. Similar to Kim’s comment, the first related to the internet connection at the school. “The first and the most important one for me is the internet connection” (L. 12). However, while Kim stated that her limitation involved the speed of the internet connection, Susan’s was about the internet connection itself. Susan explained that sometimes she could not access the internet because the school’s Wi-Fi network was poor. She further commented that there were websites she wanted to use for education purposes but she could not because they were “blocked by the school’s server due to advertisements” (L. 14). Different from Kim, Susan’s other limitation related to access to ICT devices. “I don’t have enough devices for every student to use” (L. 15). Susan commented that she only had five computers available in her classroom, which made it “very hard for students to do research” (L. 16). As a result, she had to divide students into smaller groups to work in turns so that they could use the computers.

When being asked if there were other ICT uses in her Languages classroom, Susan indicated that occasionally, she let students watch short movies on the classroom TV via the DVD player to provide students with more information about the country they were learning about, Indonesia. Furthermore, Susan indicated that she used ICT across all the year levels she taught, from Year 2 to Year 6.
Thus, like Kim, Susan also believes that ICT is a valuable addition resource to her Languages classroom. However, due to her limited access, she could not use ICT as regularly as Kim. The section below provides a more detailed picture of Susan’s use of ICT in her Languages classroom, including a report of the two lessons that I observed Susan teaching.

4.3.4 Susan’s use of ICT in teaching Languages.

In this section I report on Susan’s use of ICT in teaching Languages, drawing from survey and interview data as well as my observations of Susan in the classroom.

The survey asked Susan to rate her knowledge and level of skill in relation to a number of ICT applications. Unlike Kim, Susan’s survey data indicated that she had varied knowledge of common applications. She indicated that she knew what the majority were and what they did. However, she indicated that she did not know three of them – Ning, Learner Response Devices and Smart Pens. In relating to level of skill, Susan responded “not at all” to these same three applications, “a little” in relation to 12 applications and “some” in relation to six applications. Furthermore, she replied “a lot” in relation to six applications – wireless internet access for learning and teaching, digital cameras, netbooks, iPod, iPad, and e-book reader. Thus it would seem that, unlike Kim, Susan’s knowledge and skill level in using common ICT applications was varied.

The third section of the survey asked Susan to indicate whether she had used the applications or intended to use them, and if so with what year levels. Like Kim, she did not complete this section. Indeed she did not attempt to respond to any items in this section, but her reasons for not doing so were not solicited by the researcher.

When it came to reporting on where she developed her ICT skills, unlike Kim who commented in the survey that she acquired “a lot” of her ICT skills from her personal life, Susan noted that professional development sessions also contributed greatly. Further she
commented that her Teacher Education Program and her prior study had helped her “some”, but that her prior work experiences only influenced her “a little”. In relation to her uses of ICT in her classroom, Susan commented that they mainly included recording students’ performance for assessment on her iPad and playing international music for students’ cultural awareness on her laptop. Susan also stated that she regularly used some educational websites so that students could practice Indonesian. When asked in the survey what recommendations she had to support effective ICT integration in the classroom, Susan commented that she would like access to schools’ netbooks and iPads, which were currently available for use only in general classrooms. She would also like to be equipped with an interactive whiteboard in her classroom. Similar to Kim, Susan would like the government to provide her school with a faster and more reliable internet broadband network. In general, Susan commented that she felt satisfied with her level of ICT skills, which she deemed as basic. However, she would like to learn more about some of the innovative programs especially designed for teaching Languages.

I observed Susan teaching on two occasions, once with Year 3, and once with Year 5. Each time this observation occurred in the specialist Languages classroom designated by the school. Each observation was of a single lesson of 50 minutes. Unlike Kim, Susan’s Languages classroom is a separate classroom in a portable block located towards the side of the school. She is the only teacher who uses this room. The room is equipped with some access to technologies. There are five desktop computers that are located near the windows. Susan bought her own iPad and she carries it to school every day to use in her lessons. Susan also has a CD player with an iPod dock. This CD player belongs to the school. She borrows it from the school library at the start of the school year and has to return it at the end of the school year.
Below is a map of her classroom.

Discussion now turns to individual reporting on each of the two observations.

**Observation 1.**

My first observation with Susan was with a Year 3 class. The purpose of the lesson was to teach students about food and shopping. This was not their first lesson on these topics as they had started in previous lessons. There were 22 students in this class.

At the start of the lesson, students were accompanied by their classroom teacher to Susan’s classroom. Students entered the room and sat on the floor in front of Susan, who then started to mark the roll and greeted them in Indonesian. Next, she got out two traditional Indonesian outfits and invited two students to dress in them and act as a shopkeeper and a customer. A few students put their hand up indicating their interest in the activity. Susan chose two of them and asked them to come to the front of the class where she demonstrated the language they could use. She then invited another pair of students to demonstrate the role play in front of the class.
In the lesson proper, Susan randomly divided the students into three groups so that each group could undertake a different activity and then rotate after 15 minutes.

- **Group 1 – Role play**: Students worked in pairs to act as a shopkeeper and a customer. Susan had some traditional Indonesian outfits for the students to put on. She also had some props including plastic food items prepared for the students so that it would be easier for them to make the conversations.

- **Group 2 – Making a vocabulary booklet**: Students had started making this booklet in a previous lesson. In this booklet, students had to fill in as many fruits and vegetables as they could. They also had to draw their pictures. Students used the vocabulary that Susan put up around the classroom to help them.

- **Group 3 – Computer activity**: Students had to do an online activity. Students had to search Google for “Languages Online”, [www.education.vic.gov.au/languagesonline](http://www.education.vic.gov.au/languagesonline), and choose Indonesian, then topic 34, Food. Susan asked students to complete the first three activities. Susan wrote the name of the website, the topic number, and the activities numbers on the board for the students to see. This website is a free resource for language teachers and students provided by DET. While the students were working, Susan revealed that she wrote the website information on the board so that she did not have to remind students again when the groups changed, thus saving her time.

Since the emphasis of my study is on the use of ICT in primary classrooms, I focused my observation on the groups doing computer activities. Susan focused on the students undertaking the role play activity. She used her iPad to record conversations for assessment purposes. Due to lesson time limits, students could only rotate once, so there were only two groups doing computer activities.
In the first of the three activities, there were eight boxes with eight food items in them. When students clicked on the food items, they heard it pronounced in Indonesian. They had to type the words they heard into the boxes. There was a drop-down glossary if the students needed help. The website gave students feedback instantly if they had the spelling right or wrong. Students could listen to the words as many times as they wanted to. When the students had finished these eight boxes, they had to go on to two other screens with another eight boxes each. From my observation, students kept repeating the words quietly by themselves as they were typing them in the boxes. On one occasion, a girl was stuck on a word and she listened to it four times. Another student sitting next to her turned to her and told her what the word was and its spelling. It might have meant that the student had remembered the word from her activity. Most of the students in the two groups doing these activities were very attentive, perhaps because they had to listen to the words and type in the spelling and, therefore, needed to concentrate.

After finishing 24 words in the first activity, students then clicked “Next” to move on to activity 2. This activity was a memory game, in which students had to match the words with the correct pictures. There were 18 pairs to match. The words in this memory game were the words they had been practicing in activity 1. There were two rows of cards. In the first row were the food item pictures and in the second row were the words. The students clicked on the words and the computer read the words out loud. Students tended to finish this activity quickly. They then moved onto the third activity. The third activity required students to do a word search. The words they had to search for were the 18 words they had been practicing in the previous two activities. From my observation, it would seem that when students worked on the activities on the computers, they appeared focused and worked more by themselves.
After the students had had two rotations of the activities, Susan asked them to pack up the room and get ready to be picked up by their classroom teacher. The group that was on the computers had to shut the computers down.

Observation 2.

My last observation with Susan was with a Year 5 class. There were 21 students in this class. The purpose of the lesson was to learn about “Seasons”. Students had been working on a project around this topic for five weeks with one session per week. This lesson was their sixth on this project and students were working towards completing their final drafts. For this project, students had to create an A3 poster about “Seasons”. Students chose one season of the year and provided information about that season, including the weather, the months of that season, clothing, activities, and celebrations during that season.

To begin the lesson, Susan marked the roll and greeted students in Indonesian as was her usual practice. Susan then went to her cupboard to bring out a pile of students’ posters. Next she called out the names and handed the posters out to individual students, who then sat back on the floor. While handing back the posters, Susan had a quick look at them and identified the students who were almost finished and asked them to sit at one table. There were six of them. Susan then asked the rest of the students to sit at a table of their choice. Susan had already put a lot of vocabulary about the topic of “Season” around the room so that students could draw on them to find the words to put in their posters.

After the students had sat down at the tables, Susan gave her iPad to the group that was finalising their posters, asking them to search for any words they wanted to use that they could not find in the class wordlist. Susan asked them to use the “Toggletext.com” website to do so. This is a translation website specifically for Indonesian language. While the students were working, Susan told me that looking for the translation themselves allowed students to
extend their vocabulary. I observed this myself with several students. One student was looking for the word “rainbow” but he could not find it around the classroom. He typed in the word “rainbow” and the translation “pelangi” came up. He then copied it into his poster. Another student used the iPad to find the translation for “sunny”, which was “berchaya matahari”. A third student chose the topic “summer”. She wanted to put “very hot” in her poster, she found the word “hot” in the class wordlist but there was no “very hot”, she had to use the iPad to search for “very hot”. A student was looking for the word “shorts”. He told me that it was probably in the class wordlist but he preferred to type it into the iPad to search for the translation because it was much quicker. Students shared the words they just found among the others in their group.

The students were given the whole lesson to finish their project. At the end of the lesson, Susan told them to hand back her iPad and put their posters in a pile on the floor in front of her. Students were picked up by their classroom teacher, as was routine practice.

4.3.5 Conclusion.

This case study has reported on another Languages specialist teacher’s use of ICT in the classroom, Susan. Susan teaches Indonesian at Delta Primary School, which has a strong focus on using ICT in all subject areas including Languages. She is a veteran teacher who has been teaching for nearly 20 years. Like Kim, Susan believes that ICT plays an important role in her Languages classroom, and commented during her interview that she thought it allowed students to work at their own pace, to do research, and to monitor their own progress. However, Susan also indicated that school’s unstable internet connection and limited access to technology were limitations to her use of ICT in her Languages classroom.

In addition, Susan’s survey data indicated that she had varied knowledge of common applications. She indicated that she knew what the majority were and what they did.
However, she indicated that she did not know three of them – Ning, Learner Response Devices and Smart Pens. When it came to reporting on where she developed her ICT skills, Susan noted that professional development sessions contributed greatly to her ICT skills. Further she commented that her Teacher Education Program and her prior study had helped her “some”, but that her prior work experiences only influenced her “a little”.

In relation to her uses of ICT in her classroom, Susan commented that they mainly included recording students’ performance for assessment on her iPad and playing international music for students’ cultural awareness on her laptop. Susan also stated that she regularly used some educational websites so that students could practice Indonesian. I observed Susan teaching on two occasions, once with Year 3, and once with Year 5.

Like Kim, in her class, Susan adopts several routines, including requesting the students to enter the classroom and sit on the floor to await instructions. In the lessons observed, Susan used the classroom computers for students to undertake online activities and she also let students use her iPad to do research. While students were working, Susan used her iPad to record students’ conversation for assessment purposes.
4.4 Chapter Summary

This chapter has reported on two Languages teachers’ use of ICT in their classroom. Kim and Susan are both veteran Languages teachers, who teach in two different primary schools in Victoria. Kim teaches Mandarin and Susan teaches Indonesian. While they both have been teaching for a long time (more than 13 years), their experience and actual use of ICT in their teaching are varied. Both schools, Delta and Prism Primary Schools, have similar access to technology. However, their ICT access in the Languages classrooms are different, which in some degree results in the differences in Kim’s and Susan’s uses of ICT in their classrooms. Both Kim and Susan commented positively on the use of ICT in their Languages classrooms as it assists them in their teaching in many ways. However, they both consider the schools’ internet connection has limited them from their use of ICT during their lessons. In addition, Kim indicated that parental permission was another limitation to her use of ICT in her teaching, while Susan commented that not having enough access to ICT was other limitation. In the next chapter, Chapter Five, I will discuss these findings in more detail.
Chapter 5: DISCUSSION OF THE FINDINGS

In the previous chapter, I reported on the findings of this study drawing from survey, interview, observation and artefact data. These findings were presented as two case studies: Kim, a highly experienced Mandarin teacher at Delta Primary School and Susan, a veteran Indonesian teacher at Prism Primary School. In this chapter I discuss these findings in relation to previous research.

5.1 Introduction

There have been significant changes in Australian national and state policy regarding ICT and Languages education in the last 20 years. The teaching of Languages has shifted from being an optional subject, to one that is now compulsory from Foundation to Year 10 mainly because of concern that Australians need to be able to interact with India, China and other Asian nations with whom Australia has the strongest relationships. At national level Australia is currently implementing a national curriculum, which impacts on what is to be taught and how it is to be taught. The F-10 Australian Curriculum: Languages is being developed and currently is waiting final endorsement from the ministers (ACARA, 2013a). However, most of the curricula are now available online for use and State and Territory education authorities will decide about their implementation. Meanwhile teachers in the state of Victoria are bound by a hybrid curriculum framework, in which they blend the older Victorian Essential Learning Standard framework (VELS) with the newly developed Australian Victorian curriculum (AusVELS). Thus Languages teachers are experiencing a time of considerable change and increasing demands, especially when Languages education is now compulsory from F to Year 10 starting from 2015.
During the last 20 years there have also been considerable policy shifts regarding ICT as can be demonstrated by the national goals of schooling. Where once ICT, similar to Languages, was seen as an option mainly for senior students, is now an expectation. By 1998 in the Adelaide Declaration, Goal 1.6 stipulated that all students should leave school as confident and creative uses of ICT, resulting in a number of subsequent policies, statements and strategies encompassing “Learning in an online world”. This goal was further developed in the Melbourne Declaration in 2008 whereby ICT now underpins success in all subjects. Victoria has been one of the leading states in relation to implementing ICT in school contexts. Beginning in the mid-1990s, the Victorian government began to spend considerable sums in supporting the infrastructure to enable widespread use of ICT. Since this time there has been a large range of initiatives including the more recent 1:1 program and the Netbook Trial (DEECD, 2010b). More recently, these have also involved the use of iPads.

Languages teachers, such as the two teachers in this study, are expected to embed ICT in their practice, and to adhere to the AusVELS framework as well. This is likely to be placing considerable ongoing demands on teachers who need to adjust to a climate of continual policy change. In the next few paragraphs, I specifically discuss the research findings of this study.

5.2 Teachers’ Use of ICT in Languages Classrooms

5.2.1 Introduction.

There has been extensive research around the use of ICT in the language classroom in general, resulting in a number of influential reviews that provide summaries and commentary on key aspects. However, despite the amount of research, there is still inconsistency regarding the effects of ICT on language teaching and issues around the generalizability of
findings. Research tends to report positive outcomes and perhaps there is an unwillingness to report less favourable ones. Research has suggested that using technology in a language classroom cannot guarantee a positive outcome and that indeed using ICT in any classroom is complex. The benefits of using ICT in language teaching often relate to developing specific language skills such as vocabulary, grammar, pronunciation, and writing skills as well as promoting the learner’s attitude and learning behaviour.

5.2.2 The participants in this study.

As the literature in general has shown, both Kim and Susan had positive attitudes about using ICT in the Languages classroom. In the main, their views are reminiscent of the literature. Macaro et al. (2012) and Stockwell (2007) suggest that the focus of language teachers’ use of ICT in their practice is on developing specific language skills such as vocabulary, grammar, pronunciation, reading, writing, and listening. Kim agreed, commenting that the iPad application that her students used for practicing writing was very important for them to develop their writing skill. Likewise, when explaining her use of the online activities, Susan commented that they were useful for the students to develop their vocabulary and listening skill.

As well Golonka et al. (2012) concluded that a large number of studies had suggested that technology helps learners to be more engaged in the process of learning, and to have a more positive attitude towards learning. The researchers also suggested that learners enjoy using technology in language learning and that they preferred using technology over more traditional methods and materials. This study seems to support these findings. Kim believed that ICT was fun and engaging, commenting that it helped students to get on task quicker. Susan tended to have similar views, commenting that students were more relaxed with ICT integrated lessons.
5.2.3 Summary.

On the whole, the participants in this study, Kim and Susan, tended to reflect views canvassed previously in the literature. They both considered that ICT is important for developing particular language skills and that it is an engaging teaching tool.

5.3 Common ICT Applications Used and For What Reasons

5.3.1 Introduction.

A considerable body of research has considered the main ICT applications used in the language classroom. This has shown that, for the most part, these tend to be the interactive whiteboard (IWB), network-based computing technologies, recording devices and the latest technology, Robot-Assisted Language Learning (RALL).

Research around the IWB has shown that it is particularly beneficial in teaching primary students because touching the boards seemed to be very important for younger children (Kennewell & Morgan, 2003). As well research has suggested that the IWB is particularly suited for language teaching because it meets the current social-cultural approach to language pedagogy, which emphasizes language acquisition as occurring through social interaction (Xu, 2011). In addition, the IWB is also considered as a communication channel between teachers and learners in the classroom (Cutrim Schmid, 2006).

Another technology often discussed in the recent literature is network-based computing technologies. Stockwell (2007) suggests that many of activities associated with using the internet such as online activities, Chat, MOO, email, and BBS can be beneficial to language teaching because they develop students’ grammar, vocabulary, pronunciation, reading, writing, listening, and speaking skills. One of the most common benefits about using the
internet in the language classroom reported by researchers is that it provides students with authentic materials, thereby exposing them to foreign language input (Erbaggio et al., 2012).

In the 80s and 90s, language teachers used to test students’ oral skills by interviewing them (Brown, 1995; Meredith, 1990). However, teachers found that this type of assessment was too time-consuming and could also cause a stressful testing environment for students (Larson, 2000). Language teachers nowadays employ different recording devices for assessment and learning purposes. Research indicates that recording devices such as iPads, iPods or other digital video technologies not only provide students with a less stressful testing approach but also encourage them to use active language skills, such as correct grammar and vocabulary as well as proper pronunciation (Hsu et al., 2008; Valle & McConkey, 2013). Teachers also prefer this assessment method because of its convenience (Larson; 2000).

The latest technology being discussed by literature is Robot-Assisted Language Learning (RALL), which has been introduced in Canada, Japan, South Korea, Taiwan, and America (Han, 2012). Lee et al. (2010) suggest that although RALL motivates students’ learning and increases their interest and confidence in learning foreign languages because it has human-like behaviour with different speech functions and face expressions, robots do not allow small mistakes to be made by students, thus they can be under pressure and lose their confidence.

5.3.2 The participants in this study.

Discussion now turns to consider the second question around Kim and Susan’s use of ICT in their Languages classrooms.

This study confirmed that the common ICT applications being used in language teaching are the IWB, network-based computing technologies, and recording devices. Although Kim’s
IWB was being maintained at the time of my observations and thus could not be in use, Kim indicated that she often used it with Prep, Year 1 and Year 2 students. This finding was reported earlier by Kennewell and Morgan (2003), stating that the IWB is specially suitable for working with younger children. Kim further commented that she also used the IWB when she wanted to demonstrate a new task to the students or when she wanted them to share their work to the whole class. This supports Cutrim Schmid’s study (2006), which claims that an important role of the IWB is to establish a communication channel between teachers and learners in the classroom by sharing their knowledge with the rest of the group. Kim is a supported didactic IWB user (Miller et al., 2005) because she uses the IWB only as a visual support to her lessons. She uses the IWB to illustrate rather than involve and it is not considered as an integral part of her lessons.

In the five lessons I observed Kim used technology in every one of them. iPads were used in all of the lessons I observed. She tended to use the recording application of the iPads for different purposes and one of them was for assessment purpose. She asked the Year 1 students to record themselves counting numbers and the Year 6 to record the names of the characters in the Sleeping Beauty story. Kim commented that she found that it was an effective assessment approach because it was less stressful for the students and she could also listen to them at her convenience and save them on file to track students’ progression. This supports the notion that using recording devices for testing makes students less anxious and they can also conduct the tests at the same time (Larson, 2000). In addition, Hsu et al. (2008) argue that this technology also allows teachers to measure students’ performance outcomes and to track students’ learning progress.

Belanger (2005) suggests that using recording devices in language teaching is increasingly popular in recent years as it provide learners with authentic materials. This was also the case
in this study. During a lesson with a Year 1 group, Kim asked the students to record a short conversation to the iPads so that it could be listened to by a Prep group in the following section. The Prep students enjoyed listening to their peers and took time to practice the conversation themselves by repeating after it. Moreover, this study added a new dimension to the various use of recording devices in language teaching, self-assessment. When Kim taught her Prep class how to sing a children’s song, she used her iPad to record the children singing together and played it back for them to listen to. Listening to the first recorded piece, the children could tell that they did not sing well together and knew what they could do to improve.

Research reports that using student-created digital video in language teaching is not a new idea but only in the last decade has it been using more and more by the teachers (Henderson, et al., 2010). Positive educational outcomes of engaging students and enhancing oral activities in video production have been mentioned in literature since the 1990s (Broady & Duc, 1995; Forman, 1999; Tyner, 1994). It was used during Kim’s lesson as well. Kim asked her Year 1 students to work in pairs and use the Puppetpal application on the iPads to create a short animation clip using the greeting vocabulary they just learnt. The students were very engaged in the task and focused on their speaking skill.

Kim’s case also provides another example of using short video clips to develop students’ language skills. This has been well reported in previous research. King (2002) claims that DVD feature films have provided a wide range of pedagogical options for language learners. Stempleski (2000) further adds that films are invaluable teaching resources for language teachers because they expose students to a wide range of native speakers, each with their own slang, reduced speech, stress, accents, and dialects. Kim showed the Year 5 and 6 groups the Sleeping Beauty clip with subtitles. She stopped in between the sentences for a discussion and asked students to undertake written tasks after watching the clip. This finding supports
other findings, which suggest that using recording technology also helps students to improve different language skills such as listening (when watching the movies), speaking (when discussing the movies), reading (finding personal data or information about their favourite actors and/or film reviews), and writing (writing personal reviews or a summary of the movies) (Stempleski, 2000).

In addition, Kim often used network-based computing technologies in her practice as Castaneda (2011) argues that these networks are a form of computer-mediated communication, which allows their participants to interact beyond the traditional face-to-face classroom across time and distance. Kim often asked the students to email their work to her when they finished it at home. Email was the main communication means Kim used to interact with her students beyond the classroom. The students were allowed to email Kim if they had any school-related enquiries.

In Susan’s case, she used technologies during her lessons. Like Kim, Susan also commented positively about the IWB although she did not have one in her classroom. Susan is aware of the IWB and would like the school to equip her classroom with one. In relation to her actual use of ICT in her practice, Susan often employed online activities for students to practice their language skills. This finding supports Stockwell’s findings (2007), which suggest that many of activities associated with using the internet can be beneficial to language teaching because it can develop students’ grammar, vocabulary, pronunciation, reading, writing, listening, and speaking skills. When undertaking the online activities, the Year 3 students had a chance to listen to the words, practice the pronunciation of the words by repeating after the computer, and finally learn the spelling of the words. On the other hand, the Year 5 students used Susan’s iPad to search for vocabulary for their “Seasons” project. Erbaggio et al. (2012) suggest that network-based technology may permit teachers to promote independent learning environments.
Susan’s case strengthens the notion that recording devices are used commonly by language teachers for assessment purposes. While the Year 3 students were working in pairs practicing their conversation, Susan used her iPad to record their performance and saved these on file so as she could access to them at her convenience and track students’ progression easily just as Hsu et al. (2008) suggest. In relation to recording devices, King (2002) also claims that DVD feature films have provided a wide range of pedagogical options for language learners. Stempleski (2000) further adds that films are invaluable teaching resources for language teachers because they not only present the countries in real life contexts rather than artificial situations, but also expose students to a wide range of native speakers, each with their own slang, reduced speech, stress, accents, and dialects. While I did not observe it myself, Susan told me that she let her students watch short DVD feature films about Indonesia occasionally so that they could experience the country in its real life context and listen to the native speakers. Susan also suggested that watching such DVDs could promote students’ cultural awareness, which was essential in learning a new language. This feature has not been mention previously in literature.

5.3.3 Summary.

In the main, the findings of the study relating to Languages teachers’ use of ICT in their practice support previous research in a number of ways: the IWB, recording devices and network-based computing technologies are the common applications being used in the language classrooms. The IWB is being used because it is suitable for junior students and for whole-class activities. The recording application of the iPads is being used for teachers’ assessment and self-assessment purposes. In addition, both Kim and Susan showed students short feature films as a way for students to experience authentic language as well as to develop cultural awareness. Network-based computing technologies such as email, online
activities and online searching have also been used by Kim and Susan to interact with students beyond the classroom border and to develop different language skills as well.

5.4 Barriers and Enablers to Teacher Use of ICT

5.4.1 Introduction.

A considerable body of research has focused on identifying and categorizing barriers and enablers to teachers’ use of ICT. This research is not particular to language teachers. Research suggests that it is important to carefully examine the barriers to this use so that we can develop practical strategies to overcome and eliminate these barriers (Ertmer, 1999). For the most part the literature has suggested that factors can be categorised into two groups: the school level and the teacher level.

The school level includes four main barriers: lack of time, lack of professional development, lack of accessibility, and lack of support. Likewise, the teacher level also involves a number of factors such as teachers’ ICT proficiency, and teachers’ beliefs and attitudes. Among these barriers, teachers’ beliefs and attitudes towards technology is arguably the most influential factor their ICT use in the classrooms because they decide both content and pedagogy of the subjects being taught (Mumtaz, 2000). Some teachers hesitate to integrate technology into their curriculum because they believe that it would mean that they then have to take on many additional roles such as instructor, trainer, collaborator, coordinator, advisor, and monitoring/assessment specialist (Groff & Mouza, 2008). Others think that their role as a classroom teacher could be challenged because they have less knowledge about the technological applications than their students, thus they might need their students’ assistance in working with the applications (Bowman, 2004). Ertmer (1999) argues that before addressing other barriers, teachers’ beliefs and attitudes towards technology have to be considered first because it is the core barrier.
It seems that there are three main enablers that could encourage teachers to use ICT in their classrooms. They are professional development, access to technology, and support from schools. Professional development can enable teachers to use ICT because they provide teachers with essential knowledge and pedagogy of ICT integration, which could potentially change teachers’ teaching philosophy as well (Becker and Riel, 2000). It is important that these professional development sessions are delivered with quantity and quality so that teachers get the maximum benefit. Equally important to teachers’ use of ICT is having access to technology, which according to BECTA includes access to teachers’ own personal laptops, high quality resources, full access to quality software and hardware at all times and access to interactive whiteboards (Scrimshaw, 2004). Further, Zhao et al. (2002) emphasize having easy access to these resources. Last but not least, school support plays a crucial role in enabling teachers to use ICT in their practice (Scrimshaw, 2004). School support can come in different ways such as encouraging teachers to attend professional development sessions by offering a reward system (Richardson, as cited in Scrimshaw, 2004), providing teachers with clear ICT plans and achievable goals (Tonduer et al., 2008), delegating more computer lab time to teachers (Zhao et al., 2002), and providing timely technical support to teachers.

5.4.2 The participants in this study.

It is important to note the context of this study, including access to ICT. The two case studies in this study had relatively high level access to technologies. Kim taught at Delta Primary School, which had an iPad program for Year 5 and 6 students that enabled these students to have 1 to 1 access to a device. She also had an additional set of 19 iPads in her classroom to be used by Prep to Year 4 students. Susan on the other hand had less access than Kim. Although Prism Primary School had the netbook program for students from Year 4 onwards, the netbooks were available for main classroom use only, not for specialist classes such as
Susan’s. Susan had access to five computers with internet connection in her classroom instead.

**The barriers.**

Ertmer et al. (1999) and Groff and Mouza (2008) argue that teachers’ beliefs and attitudes towards technology are the main barriers to teachers’ use of ICT in their practice. Results from their studies show that teachers will not employ ICT in their practice if they do not believe it has positive outcomes. At the start of my interview with Kim, she commented that she used ICT regularly in her Languages classrooms because she considered that ICT was an integral part of our modern life and that she believed that it would enhance her practice. Kim emphasized the fact that she would not use ICT if she did not believe it would be of benefit. Like Kim, Susan has a positive attitude towards technology, commenting that she believed that technology can enhance her language teaching because it not only assisted students with their learning but also assisted her with her teaching activities.

Kim’s and Susan’s cases illustrate the barriers to teachers’ use of ICT in the classroom as discussed in previous literature, such as professional development and access to technology. Moreover, Kim’s case suggests a new barrier that has been given attention in the literature, that is, parents’ involvement. Kim requires her students to email her any unfinished school work so that she can correct it and keep it on-file. In addition, students are encouraged to email her for any clarification if they need to. However, not every parent at Delta Primary School allows their children to have their own email addresses or even have access to the parents’ emails. As a result, those students cannot fulfil the tasks that Kim wants them to. And that for Kim was a significant disappointment.

In 2010, the Department of Education and Training implemented 1:1 program across Victorian government schools to support the Digital Learning policy (DEECD, 2010b). This
provided students with 1:1 access to a portable and networked digital device such as a notebook or tablet. The purpose of this trial was to investigate students’ learning outcomes and teachers’ ability to plan for individual student needs, as well as parental engagement in students’ learning from home (DEECD, n.d.). In addition results from the National Asian Languages and Studies in Schools Program (NALSSP) ICT research project in 2010 and 2011 (DEECD, 2011) have suggested that technology could extend teachers’ collaboration beyond the classroom to the wider school community and to the parents. On the other hand, with the implementation of the 1:1 program, the Department of Education and Training also issued the ICT Acceptable Use document (DET, 2015) available to all parents and students. The purpose of this document is to provide information to parents and students about the school’s programs and practices in relation to ICT and to describe expected behaviours, as well as feature information to assist parents to support their child’s use at home. Hence, the government expect the parents to work in collaboration with the teachers to assist their children’s learning.

However, not all parents in Kim’s classes agree. Kim commented that some parents did not allow their children to have their own email accounts nor use their email accounts to interact with Kim. Thus the students could not send Kim their work for assessment when she asked them to. And that for Kim was a significant barrier to her use of ICT.

Another problem that often occurred in Kim’s class that affected her use of ICT during my observations was the instability of the internet connection. During the interview, Kim commented that the slow internet speed was one of the barriers to her use of ICT. In addition, during my observations with her, I experienced another problem related to the internet connection. Students used Apple TV to share their work with the whole class and they needed an internet connection to do so. When students were sharing their files, the internet connection was interrupted a number of times and as a result they had to reconnect their iPads
to the internet and a lot of class time was wasted. This problem had been reported previously in the literature as Hennessy et al. (2005) claim that that poor ICT facilities were a major constraint in teachers’ integration of ICT into teaching in all subjects.

Susan agreed, commenting during the interview that the internet connection was one of the main barriers to her use of ICT in the classroom. However, unlike Kim’s case, Susan complained that there were websites she wanted her students to access to for their learning but they could not because these websites had been blocked by the school due to advertisements. There has not been much discussion in the literature about the inflexibility of the school’s internet connection.

Kim also encountered a different problem that relates to the accessibility barrier. In the survey Kim noted that she would like to create e-books for her students to enrich their learning resources. However, that required a Mac Book Pro, which she did not have access to. Hence without sufficient and appropriate access to ICT Kim’s chance to use technology in her classroom has been limited (Hew & Brush, 2006).

Mumtaz (2000) and Hennessy et al. (2005) claim that the levels of access to ICT could determine levels of use of ICT by teachers. In fact Susan’s use of ICT was more limited than Kim’s mainly due to the fact that she had less access to technology than Kim. Susan commented during the interview that she did not have enough access to ICT in her class. Indeed she only had access to five computers with internet connection and her own iPad.

**The enablers.**

Among the factors that enable teachers to use ICT in their classrooms, Pelgrum (2001) and Zhao et al. (2002) argue that access to the internet is one of them. Indeed both Kim and Susan indicated in their surveys and during the interviews that a faster, more reliable and more flexible internet connection would allow them to more successfully integrate ICT into their
Languages lessons. Kim’s use of ICT in the classroom relied greatly on the internet connection because she used Apple TV in most of her lessons and the students needed the internet to search for information to undertake their tasks as well. Likewise, Susan often asked her students to undertake online activities or to search for vocabulary online, therefore, the internet connection was very important for Susan to ensure a smooth ICT-integrated lesson. Hence the internet access is an important enabler for Kim’s and Susan’s use of ICT in their practice.

Mumtaz (2000) argues that lack of access to technology can seriously limit teachers’ use of ICT in the classroom. To allow more frequent use of technology in her classroom, Susan commented that she would like to have more access to it. As discussed previously in Chapter Two, results from the BECTA report show that the interactive whiteboard is considered by the participating teachers as one of the most popular ICT resources to ensure the effective use of ICT in the classroom for different subjects (Scrimshaw, 2004). This was the case with Susan as well. Teachers at Prism Primary School where Susan was teaching were equipped with an IWB in every second classroom. However, it was for the general classrooms only, not for specialist ones. Being aware of the benefits of the IWB, Susan indicated that it would be a useful asset for her use of ICT in her classroom.

Susan also commented that she would like to learn more about how to use ICT in the classroom innovatively. This implies that she saw professional development as an enabler to her use of ICT in her Languages classroom. Although she had limited ICT access, it would seem likely that professional development could assist her. According to Earle (2002), the focus of ICT integration is not on the technology but rather on pedagogy.
5.4.3 Summary

In general, this study illuminates the issues around the barriers and enablers to teachers’ use of ICT in the classrooms, such as professional development and access to technology. Importantly it shows that issues around ongoing and reliable access to technologies, including the internet and to devices such as iPads, can have considerable impact on practice. This study suggests that parents may also be a barrier to teacher use of ICT, a factor that has not figured significantly in previous research.

5.5 Chapter Summary

In the main, Kim’s and Susan’s practices are strongly supported by previous literature regarding teachers’ use of ICT in their practice. They both have positive beliefs and attitudes towards technology and consider it an engaging teaching tool. Both Kim and Susan used recording devices and network-based applications, which were identified as common ICT applications used in language teaching, to assist them with their teaching. In addition, Kim also used the interactive whiteboard, which was considered a suitable application for young children.

The barriers and enablers to Kim’s and Susan’s use of ICT in their classroom correspond to those concluded in previous research. Thus these case studies have confirmed the view that teachers’ use of ICT is complex. For example, Susan’s limited access to technology has significantly restricted her use of ICT in her teaching. This study, however, adds to earlier research in a number of ways, especially around the barriers to teachers’ use of ICT in the classrooms. In the next chapter, Chapter Six, I will discuss the conclusions of my study.
Chapter 6: CONCLUSIONS, IMPLICATIONS, LIMITATIONS

This chapter reports the conclusions of the study resulting from the findings reported in previous chapters and then compares these with the research questions and with the research literature. Finally, it suggests a number of implications for further research, for policy-makers and teachers that emerge from these conclusions.

6.1 Conclusions

The conclusions of this study are reported in relation to the three research questions set out in Chapter One. These are:

1 - How are teachers using ICT in the primary Languages classroom?

2 - What common ICT applications are being used and for what reasons?

3 - What barriers and enablers act to shape primary Language teachers’ use of ICT?

6.1.1 Teacher use of ICT in Languages classroom.

This study suggests that the use of ICT in Languages classroom is a complex matter because a whole range of factors can come into play, including access to technology, professional development, time and teacher beliefs. Both Kim and Susan had positive beliefs in the value of ICT to their Languages classroom and believe that ICT is an engaging tool for them and helps their students to have more positive attitudes towards their learning. The teachers also thought that technology was beneficial for students in terms of developing specific language skills, while acknowledging that it does not guarantee success in learning Languages in general.
6.1.2 Common ICT applications are being used.

This study also shows that interactive whiteboards, network-based applications and recording devices were commonly used by Kim and Susan. Indeed both Kim and Susan consider the network-based applications as essential to their Languages lessons, as they routinely use them, embedding them in the lessons that I observed.

Kim used the interactive whiteboard with the junior year levels and also for whole class discussion. Both Kim and Susan used the network-based applications because they saw these tools as essential in developing certain language skills such as vocabulary, grammar, pronunciation, and writing skills. Thus it would seem that the two teachers in this study had purposive use of ICT, which seems to be connected to their curriculum goals. In addition, they considered the recording device of iPads very important for assessment purposes because not only could it provide students with a less stressful testing environment but also they could keep the records on file for tracking students’ progress.

6.1.3 The barriers and enablers act to shape primary Languages teachers’ use of ICT.

This study suggests that there are a number of barriers and enablers that act to shape primary Languages teachers’ use of ICT.

Kim had high level skills to employ a range of ICT applications in her practice. She was highly experienced and indeed felt very comfortable using ICT. Kim indicated that the main barriers to her use of ICT were the instability of the school’s internet connection and parents’ approval of students’ use of ICT from home. On the other hand, she commented that having better access to technologies and quality professional development sessions would enable her to use ICT in her practice more effectively.

Susan on the other hand had varied knowledge and skill levels to use ICT. She is also a veteran Languages teacher. Compared to Kim’s level of access, Susan’s access to
technologies was more limited, which also seemed to be a main barrier to her use of ICT in her classroom. Like Kim, she thought the school’s internet connection was another barrier. Susan indicated that in order for her to successfully integrate ICT into her lessons, she needed better access to ICT applications and also quality professional development sessions to provide her with much needed pedagogies to do so.

6.2 Implications

Several implications emerge from this study and these are described below.

6.2.1 Research.

This study suggests the need for continued research in several areas.

First, this study suggests the need for ongoing research around primary Languages teachers’ use of ICT. Given the current policy context in which Languages teachers are undergoing considerable change, further studies are warranted to more fully understand the complexity in teacher decision-making and the choices they make regarding ICT. This is likely to become of increasing importance given the ongoing developments in the Australian curriculum. Future research could also consider the connection between teachers’ use of ICT and curriculum goals.

Second, one of the issues emerging from my study is that parental attitudes can potentially act as a barrier to the use of ICT to support Languages learning. If parents do not support or allow their children access to features of the online world such as email, then opportunities to integrate ICT in Languages learning are restricted. This finding suggests that instituting a 1:1 devices policy may not be sufficient. Other factors, including the attitudes of parents towards their children’s use of ICT, may also impact the extent and nature of Languages teachers’ use of ICT. Therefore, further research that perhaps focuses on the impact of parental attitude on
the capacity of teachers, particularly Languages teachers, to integrate ICT in meaningful ways into their teaching practices would be of value, especially given that it was DET’s requirement.

This study has focused on two case studies in order to develop detailed illustrations of practice. As such this is a limitation of the study. Further larger scale research studies of a larger population of Languages teachers in primary school contexts would be warranted. Since this study is situated in two public schools in metropolitan Melbourne, it would be interesting to investigate Languages teachers’ practice in other contexts such as rural and regional areas, or in private and catholic schools. This study also suggests that having regular access to ICT and having positive beliefs about the use of ICT were very important to these two teachers. Future research could also consider the connection between beliefs about ICT and about language learning and teaching. Further studies could also examine more closely the impact of various barriers and enablers identified in earlier research in this area.

6.2.2 Policy documents.

Languages.

The development of the Languages curriculum within the Australian curriculum has been relatively slow and has been affected by a change in government, which has subsequently called for a review. Given the extensive literature in the use of ICT in language teaching, policy-makers could benefit from providing Languages teachers with examples of how to integrate ICT into teaching Languages successfully and practical strategies to do so.

ICT.

While a number of strategies have been developed to encourage teachers’ use of ICT such as the “Bandwidth Action Plan” (MCEETYA, 2003), the “Pedagogy Strategy” (MCEETYA,
2005a), and “Contemporary Learning” (MCEETYA, 2005b), these were mainly produced in the early 2000s. Perhaps these could be reviewed in the light of the increasing use of mobile technologies such as iPads, and mobile phones and Web 2.0 applications, that arguably are rendering these strategies irrelevant. In particular, policies that focus on discipline needs are warranted as a means of supporting Languages teachers to have the pedagogy to use ICT.

The Design and Digital Technologies Curriculum in the Australian curriculum has developed a number of professional learning resources to support teachers in their efforts to integrate ICT. However, explicit resources that support Languages teachers are limited. The production of more professional learning resources could be appropriate. This is not to suggest a prescriptive list that would quickly go out of date, but rather to provide more advice so that teachers like Susan, who has limited access to ICT resources, could be more supported.

6.2.3 School leaders.

Schools in Victoria have relatively high access to technologies including the interactive whiteboards, computers, laptops, game consoles, and so on. Given that implementing ICT in classroom practice has been a government priority since the mid-1990s, school leaders could benefit from reviewing how they provide their teachers with access to technologies. Moreover, it seems that teachers, especially Languages teachers, could benefit from having clear ICT plans, with clearly stated and achievable goals,

In addition, this study found that despite the investment in technology in Victorian Government schools over the last decade or more, lack of reliable access to fast internet connections is still a barrier at times for teachers, including teachers of Languages. To facilitate greater uptake of ICT in the teaching of Languages schools, school leaders need to continue to invest in appropriate infrastructure and networks to ensure reliable access to online resources and applications. This is particularly the case as the world moves more to
web-based and cloud-based applications rather than standalone computer applications. In such a world, reliable internet access is crucial. Further, schools need to budget appropriately for the increasingly subscription-based learning applications and software that teachers and students will need to access.

6.2.4 Teachers.

The literature relating to teachers’ use of ICT is very clear around the need for teachers to have the necessary skills to be able to use ICT in their practice. Professional learning is, therefore, vital to ensure that teachers are kept abreast of new developments in technologies, but also regarding effective ways to embed them in their practice. This is particularly the case as more and more technologies come onto the market that could be appropriated by Languages teachers for use in classrooms. This is particularly relevant given the growing number of mobile devices available for use. While there have been a number of trials in Victoria that yielded positive results from teachers, students and parents, more professional learning that focuses on how Languages teachers can appropriate particular applications, such as iPads and other mobile devices, is recommended.

In relation to parents not allowing their children to use emails, teachers could benefit from considering some other options for communication, such as using a blog or Skype. These technologies provide teachers and students with safe online spaces and allow them to communicate at their convenience from beyond the school gate.

6.3 Concluding Remarks

This study is a small-scale study that investigated how two teachers, Kim and Susan, used ICT in their routine classroom practice at their respective schools. I am indebted to them for their willingness to participate in this study and to freely give of their valuable time. I began this study with a fairly positivist view that teachers should be able to use ICT in their
practice. This study has made me much more aware of the complexities involved in decision-making, and that indeed using ICT is not so simple. This study confirms that a number of factors impact on teachers’ use of ICT, including having sufficient access and professional development. I hope that this study adds to this research field, by presenting the voices of two Languages teachers and their practice.
REFERENCES


Australian Curriculum, Assessment and Reporting Authority. ACARA. (2011). The draft shape of the Australian curriculum: Languages. Sydney, Australia.


Beggs, T. A. (2000). Influences and barriers to the adoption of instructional technology. Paper presented at the the Mid-South Instructional Technology Conference, Murfreesboro TN.


Department of Education and Early Childhood Development. DEECD. (2011c). *The Victorian government's vision for Languages education*. Melbourne: Communications Division for Languages, ESL, and Multicultural Education Division.


Hannon, K. (2001). Using e-mail to communicate with students can make you a better teacher and increase class participation. *Asee Prism*, 10, 34-35.


Appendix 1. RMIT Human Research Ethics Committee's letter of approval

Date: 29 April 2013
Project number: CHEAN B-2000832-02-13
Project title: The integration of ICT in teaching Languages Other Than English in Victorian Primary Schools: a case study
Risk classification: Low Risk
Investigator: Thi Hai Binh Hoang and Dr Kathy Jordan
Approved: From: 29 April 2013 To: 29 April 2016

I am pleased to advise that your application has been granted ethics approval by the Design and Social Context College Human Ethics Advisory Network as a sub-committee of the RMIT Human Research Ethics Committee (HREC).

Terms of approval:
1. Responsibilities of investigator
   It is the responsibility of the above investigator/s to ensure that all other investigators and staff on a project are aware of the terms of approval and to ensure that the project is conducted as approved by the CHEAN. Approval is only valid whilst the investigator/s holds a position at RMIT University. Approval is granted subject to DEECD approval.

2. Amendments
   Approval must be sought from the CHEAN to amend any aspect of a project including approved documents. To apply for an amendment please use the 'Request for Amendment Form' that is available on the RMIT website. Amendments must not be implemented without first gaining approval from CHEAN.

3. Adverse events
   You should notify HREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.

4. Participant Information and Consent Form (PICF)
   The PICF and any other material used to recruit and inform participants of the project must include the RMIT university logo. The PICF must contain a complaints clause including the project number.

5. Annual reports
   Continued approval of this project is dependent on the submission of an annual report. This form can be located online on the human research ethics web page on the RMIT website.

6. Final report
   A final report must be provided at the conclusion of the project. CHEAN must be notified if the project is discontinued before the expected date of completion.

7. Monitoring
   Projects may be subject to an audit or any other form of monitoring by HREC at any time.

8. Retention and storage of data
   The investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

In any future correspondence please quote the project number and project title.
Appendix 2. DET letter of approval

Dear Mrs Hoang

Thank you for your application of 28 February 2013 in which you request permission to conduct research in Victorian government schools and/or early childhood settings titled *The integration of ICT in teaching languages other than English in Victorian primary schools: two case studies.*

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. The research is conducted in accordance with the final documentation you provided to the Department of Education and Early Childhood Development.

2. Separate approval for the research needs to be sought from school principals and/or centre directors. This is to be supported by the DEECD approved documentation and, if applicable, the letter of approval from a relevant and formally constituted Human Research Ethics Committee.

3. The project is commenced within 12 months of this approval letter and any extensions or variations to your study, including those requested by an ethics committee must be submitted to the Department of Education and Early Childhood Development for its consideration before you proceed.

4. As a matter of courtesy, you advise the relevant Regional Director of the schools or governing body of the early childhood settings that you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director or governing body.

5. You acknowledge the support of the Department of Education and Early Childhood Development in any publications arising from the research.

6. The Research Agreement conditions, which include the reporting requirements at the conclusion of your study, are upheld. A reminder will be sent for reports not submitted by the study’s indicative completion date.

7. If DEECD has commissioned you to undertake this research, the responsible Branch/Division will need to approve any material you provide for publication on the Department’s Research Register.

[Signature]
I wish you well with your research study. Should you have further enquiries on this matter, please contact Youla Michaels, Project Support Officer, Research, Evaluation and Analytics Branch, by telephone on (03) 9637 2707 or by email at michaels.youla.y@edumail.vic.gov.au.
Appendix 3. Letter to school principals

13/06/2013

Dear ,

The purpose of this letter is to seek your approval to conduct research in your school. This research is being conducted as part of a Masters by Research Degree, at RMIT University and has been approved by this institutions’ Human Research Ethics Committee. This research is entitled: "The integration of ICT in teaching Languages Other Than English in Victorian Primary Schools, 2 case studies".

I am inviting two schools to participate in this research. Participation in this project will give schools opportunities to value add to their own practice and may have a direct influence on improving the quality of Languages teaching in schools. In this research I aim to focus on how Languages teachers use ICT in their practice. In particular:

1. What are the teachers' opinions about using ICT in teaching Languages?
2. What are the advantages of using ICT in teaching Languages?
3. What are the disadvantages of using ICT in teaching Languages?
4. What ICT devices can be used in Languages classes?
I intend to conduct formal and informal interviews of no longer than 30 minutes with the participants, so this should not be intrusive on your teacher’s time. There are no perceived risks outside the participant’s day-to-day activities. Confidentiality and anonymity will be fully respected.

This is an exciting opportunity for you to have a possible impact on Languages teaching in schools. I would like the opportunity to discuss this research with you but understand if it is not appropriate to your school at this particular time.

Should you have any questions, please contact my research supervisor, Kathy Jordan (E-mail: kathy.jordan@rmit.edu.au- Phone number: ــــــــــــــــــــــــ).

Your sincerely,

ThiHaiBinh Hoang

Dr Kathy Jordan
Appendix 4. Invitation to participate in a research project

**Project Title:** The integration of ICT in teaching Languages in Victorian Primary Schools, 2 case studies.

**Investigators:**

1. Thi Hai Binh Hoang (Binh)- E-mail: s------------@student.rmit.edu.au
2. Kathy Jordan- E-mail: kathy.jordan@rmit.edu.au- Phone number:

Dear

You are invited to participate in a research project being conducted by RMIT University. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

This research is being conducted as part of a Master by Research Degree. It has been approved by the RMIT Human Research Ethics Committee and DET Ethics Committee.

This research is about the integration of ICT in teaching Languages in Victorian Primary Schools. The data collection from the interviews will be used to answer these questions:

1. What are the teachers’ opinions about using ICT in teaching Languages?
2. What are the advantages of using ICT in teaching Languages?
3. What are the disadvantages of using ICT in teaching Languages?
4. What ICT devices can be used in Languages classes?
5. What do the students think about having ICT in their Languages classes?

2 primary Languages teachers are expected to participate in this research. Formal and informal interviews will be conducted; each interview will be no longer than 30 minutes. The interview will consist of open-ended questions. For example: “What is your opinion about using ICT in your Languages classroom?”.

There are no perceived risks outside the participant's day-to-day activities. The researcher might recommend some possible ICT devices to be used in your classroom and ask for some feedback about them.

Confidentiality and anonymity are fully respected. Participants cannot be identified at any stage of the research. The identified data will only be seen by the research and the research supervisors. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide the researchers with written permission.

The results will be disseminated in journal articles and Master thesis. The research data will be kept securely at RMIT for 5 years after publication, before being destroyed.

What are my rights as a participant?

- The right to withdraw from participation at any time
- The right to request that any recording cease
- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant.
• The right to have any questions answered at any time.

Should you have any questions, please contact my research supervisor, Kathy Jordan (E-mail: kathy.jordan@rmit.edu.au- Phone number: -----------).

Your sincerely,

Thi Hai Binh Hoang

Dr Kathy Jordan
CONSENT TEMPLATE

1. I have had the project explained to me, and I have read the information sheet

2. I agree to participate in the research project as described

3. I agree: to be interviewed and/or complete a questionnaire
   that my voice will be audio recorded that my image will be taken

4. I acknowledge that:
   (a) I understand that my participation is voluntary and that I am free to
       withdraw from the project at any time and to withdraw any unprocessed
       data previously supplied (unless follow-up is needed for safety).
   (b) The project is for the purpose of research. It may not be of direct benefit to
       me.
   (c) The privacy of the personal information I provide will be safeguarded and
       only disclosed where I have consented to the disclosure or as required by
       law.
   (d) The security of the research data will be protected during and after
       completion of the study. The data collected during the study may be
       published, and a report of the project outcomes will be provided to RMIT
       University. Any information which will identify me will not be used.

Participant’s Consent

Participant Date:


(Signature)
Appendix 5. ICT knowledge and skill survey

**A- Demographic information:**

Please select one:

1. I have completed the:
   
   a. Bachelor of Education (Primary) Program

   b. Graduate Diploma in Education (Primary) Program

   My first degree is

   (If possible)

2. I have been teaching for:

   a. Less than 2 years

   b. Less than 5 years

   c. Less than 10 years

   d. More than 10 years

3. My Gender is:

   a. Male

   b. Female

4. My age is:

   a. Under 25
b. 25-30

c. 31-39

d. 40-50

e. over 50

B- ICT expectations and experiences

1. What role do you think ICT has in Languages classroom?

2. To what extend do you think each of the following factors have assisted you to use ICT in your Languages teaching:

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<th>Not at all</th>
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3. Are you satisfied with your ICT skills in terms of assisting your Languages teaching?
   
   If No, which aspect do you want to improve?

4. Can you outline some of the main ways you use ICT in your Languages classroom?
D. Recommendations:

What would you like your school to do in order to help you to effectively apply ICT applications into your Languages teaching?
Appendix 6. Observation plan

**Teacher** (pseudonym):

**Grade** : 

**Language** : 

**Date** : 

**Handouts** : Yes/No

**Place** : Computer lab/Classroom

Overview of the lesson:

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
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</table>

ICT applications
Map of the classroom:

Comments:
Appendix 7. Interview schedule

1. Why do you use ICT in your Languages classrooms?

2. What do you see as the benefits of using ICT in your Languages teaching?

3. What do you see as the limitations of using ICT in your Languages teaching?

4. Could you tell me some more about how you use ICT in your Languages classrooms?

5. Why do you use in this way? (this ICT applications/ this grade/ these learning goals)
Appendix 8. A sample interview transcript

Kim's interview

<table>
<thead>
<tr>
<th>Line number</th>
<th>Researcher: Why do you use ICT in your Languages classrooms?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kim: I like it. I found it fun and it is very engaging. If I don’t find it good enough to use, I don’t do it with my students. So it's got to be a personal thing as well. You know, if you are not confident, you don’t want to use it. But I know that nowadays, that is the way to go.</td>
</tr>
<tr>
<td>2</td>
<td>When we were younger, we used to read tons and tons of textbook to do our assignments that were our ways of study. Nowadays, you can't force the children, especially in the Languages class to read and read. Why do they want to read a text book? IPad is a kind of their learning tool and that's the reason why I use ICT. My students are encouraged to use their iPads to work and when they go home, they can send their work to me. That is why I use iPad.</td>
</tr>
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</table>

R: What do you see as the benefits of using ICT in you Languages teaching?

K: First of all, it's very engaging. It helps to get the students on tasks to do their works. Second thing is mobility, it's really mobile. If you say, okay, if the year 5 and 6 have iPads, which they have now, whatever work I want them to do, they can go home and do it. For grade 5 and grade 4, I have parents actually coming and asking: "oh, Ms. Law, you are using iPad, the app that my child is using in class, what is it?". They downloaded the app and they use it at home. It's a three way as well. It's not between you as a teacher and student. Now, you are involving parents, getting them to know what their children doing. I have parents actually learning how to use the iPad as well, on their own. That is really a benefit of engaging the community. For the online program of ICT apps, I can actually communicate in any way, talking about mobility, you can get the children to communicate
with you. I know a really small number of parents don’t use ICT, that's their personal choice but that is the way to go now. Not just engaging, but more convenient to get involved the parents and community. That's the reason why I'm doing it and I find it the best. Before using ICT in class, the conversation I had with parents was "How’s my kid going?" and now they are asking me: "How can I help my child and myself to do better in Chinese?". That is two different aspects and detail. "How's thing going", which can be anything. But now, they are coming no matter if they are Chinese background or non-Chinese background, they're coming to ask me “How can I help my child and myself to learn Chinese?". Some of them don’t even know what their child is speaking. They come and ask: "What are they speaking?" That is to get them to really involve and that is the benefit. Like I said to people. You capture the person's eye, but how you're going to capture them, it's your magic.

R: What do you see as the limitations of using ICT in you Languages teaching?

K: One thing I don’t like is the broadband is slow. Because once again, using ICT no matter what you teach, you'll use it. But the running of the internet will jeopardise the willing. It happens all the time at my class. I got drop off. That is the internet broadband thing it's not capturing the needs of it.

The other problem is the signal when the broadband is running. Broadband is not fast enough to use because of the speed limitation and how big your data can go. Can you imagine a school with a limited broadband? We are limited. Every single school is limited, every single household, I don’t think they are unlimited. There is very small number of them have unlimited connection. If you brings it back to Asia, 8/10 households have unlimited internet. Slow broadband does not allow running a smooth program.

There are also some limitations for the students. Some parents don’t allow their children to have email addresses, which is fair enough. But some parents don’t even allow their children to use their own email address to send their children work, which is a big
limitation. Because you are not even showing your child what is the right thing to do. If you
don’t want your child to have an email address, I’m okay with that. But you don’t allow
your child to use your email address to send their work to me when I’m asking; I think you
have to think twice about what you are doing.

R: Do you have to upgrade your skills and how you are going to do it?
K: I learn most of ICT skills by myself. For me, there is no way to continue and update
your skills by going to an expensive workshop. This is what I learn. When any flyers come
in, I try to pick up the key words and I research it myself, Google it and check what other
people thought about it. There are plenty of them online, not just educational programs;
they are games, general programs. To me, this is how I upgrade my skills. I’m going to find
the information, research be myself and then test it. Otherwise, I’m going to waste a lot of
money to go different places and unfortunately most of them, I know already. They
happened several times but luckily I don’t have to pay because I was the presenter in some
of them. If the thing I already knew, I rather not going, not only waste the school budget,
but it also waste a lot of people time as well.

R: Do you find little or a lot of apps for Chinese?
K: A lot, but some of them are not useful, some of them just there for a purpose. Therefore,
I use a general one for the target language.

R: What do you mean by Target language?
K: When I say target language, what I mean is to develop one language, for example, when
I download flash cards for animals, colours and transportations, this is all I have. But what
about others like family or numbers. You don’t have it. So, are you going to download
another one that has all of that?
To me, this is not good enough. If that is the case, I would rather to have a general app to
get the children to create their work. I know some teachers thinking that downloading the apps can save their time but it is actually not, it’s actually create more drama in their way.

<table>
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<tr>
<th>R: You’re been using iPad a lot, is there anything else you use in your classroom?</th>
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<tr>
<td>K: Before the projector broken, I use the interactive whiteboard. The problem is, the interactive whiteboard does not support Chinese language. They have the program to support other languages, but they don’t have anything for Chinese. What I do for interactive whiteboard, I actually have a program to put in the computer and use it as a tool. I still believe that you can actually still use whatever interactive whiteboard software they have got there to teach children. Like maths, they have different software you can use and I have tried it already. I no longer use just because I don’t have the projector anymore.</td>
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<table>
<thead>
<tr>
<th>R: Why do you like using the iPad?</th>
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<tbody>
<tr>
<td>K: It’s portable and it’s really there for children to see it. You can just tell them right away, for example, grade 1, where to go, this and that. I think it’s just a generation thing that iPad is a tool. IPad is not a thing you want to rely on, you can’t do that. It’s just a way to engage them.</td>
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<table>
<thead>
<tr>
<th>R: Do you use iPad from Prep to Grade 6?</th>
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<tbody>
<tr>
<td>K: Yes.</td>
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<table>
<thead>
<tr>
<th>R: Thank you very much for your time today.</th>
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<tbody>
<tr>
<td>K: You are very welcome. Let’s go back to our class.</td>
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