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A Study of Teachers' Experiences of the Integration of Educational Technology into the New English Language National Curriculum of Kuwait

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ABSTRACT

In recent years, digital technologies have been adopted by teachers and become a fundamental part of classroom teaching in many international contexts (Fullan, 2012). This international adoption of digital technology has generated educational reforms in Kuwait. Grade One teachers in Kuwait are now expected to use digital technology to teach their classes as part of the new curriculum implementation in the country's state schools.

This study focuses on examining the barriers and enablers to adopting digital technologies faced by English language teachers of Grade One, as well as examining the rate at which these technologies were adopted by the teachers. In order to explore these issues, qualitative data from 32 English language teachers were collected with additional qualitative data obtained from 3 English language Teaching Supervisors. In addition 225 English language teachers recruited in Kuwait completed an anonymous online survey. The qualitative data were coded using thematic analysis, and descriptive statistics produced from the survey. The first theories employed to analyse the data were Ertmer's (1999) Barriers and Enablers to Change theory, and Koehler and Mishra's (2009) Technological Pedagogical and Content Knowledge (TPACK) theory. Roger's (1983) Diffusion of Innovation Theory was also used to investigate the rate at which English language teachers adopted technology into their teaching.

The research identified a range of limitations and obstacles which were experienced by the teachers during their first year of integrating digital technologies into their lessons. Teachers consistently outlined a lack of preparation by the Ministry as a key factor in determining the extent to which they adopted and integrated digital technology in their teaching. Other barriers included a lack of subject knowledge, and confidence. Teachers varied in terms of the rate at which they adopted the curriculum innovations, with few teachers demonstrating that they were leaders in this area, due to the barriers outlined previously. The implications of the analysis for future policy development in Kuwait are outlined.

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Chapter One

1. Introduction

The Kuwait Ministry of Education has established a plan to guarantee that state schools in Kuwait produce qualified graduates who will later contribute positively to development of the country. It is imperative for the Ministry of Education to have a set of established policies and regulations that are followed in order to regulate and control educational processes and practices. The education system in Kuwait is in a constant state of change and reform. All changes in education are demanding and need time to be adopted properly. At the Ministry of Education, the Department of Planning and Improvement is responsible for these plans. They also decide which groups or parties are involved in the process (Amended Policies for the Primary Stage of Kuwait, 2014). The study reported in this thesis was undertaken to examine some of the issues relating to a significant government initiative, with a particular focus on English language teachers and their use of technology in English language teaching.

In this chapter, I begin by outlining education policy in Kuwait in general and how policies are formulated in Kuwait. I then provide an overview of the use of technology within education in Kuwait. This is followed by a presentation of the new Grade One curriculum implemented in Kuwait, with a focus on the use of educational technology in the English language curriculum and language teachers' professional development. The specific research aims and questions behind this study are then outlined, before an overview of the thesis' structure is provided.

1.1 Education Policy in Kuwait

The success of any plan depends on the capacity of the implementers of policy to effectively and successfully manage the process of change. A policy can be deemed a success if it builds a strategic plan which addresses social needs. However, if a policy fails to develop a calculated plan that employs adequate means to guide those implementing it to success, then that policy will be considered both ineffective and inappropriate. Therefore, any strategy that is decided upon as the best course of action to take depends highly on the policy itself, which impacts on the implementation process. At the Ministry of Education, the Department of Planning and Improvement is involved in the development

and implementation of strategic educational plans. They are responsible for setting out guidelines for the learning process, whilst putting great effort into improving the standard of learning by establishing frameworks of educational planning, evaluating planning policies, and implementing educational policies (Amended Policies for the Primary Stage of Kuwait, 2014).

1.1.1 Council of Planning

Al-Hamdan (1992, p. 29) outlined the general procedures that are followed by the Ministry of Education during the process of formulating a strategic plan:

1. The Supreme Council for Planning and Development, which is the Kuwaiti government's planning body's central office, sends the Ministry of Education details of principles and general policies as set out by the government.

2. The Ministry of Education, represented by the Department of Planning and Improvement, receives instructions from the Supreme Council for Planning and Development, and then starts the process of executing the procedures involved formulating the project.

3. The Department of Planning and Improvement sets up working teams of staff who work within several different departments at the Ministry of Education.

4. The team makes all the preparations necessary for coordinating and plan procedures, while informing the various departments of their responsibilities regarding the type of information needed to formulate the strategy. Subject supervisory departments have information to educate the group about what is going on in the sector.

5. Once information has been obtained from each of the departments involved, the planning team studies, categorises and modifies the data amassed in order to convert it and produce a final information report.

6. The Department of Planning and Improvement assembles another team to prepare the basic components of the plan, which entails the following:

    - They study both qualitative and qualitative issues in the current education system;

- They prepare sets of policies and goals;
- They make budget estimations for the entire project;
- They prepare construction projects, such as the development of school buildings.

They prepare programmes for improving the performance of individuals, which include teachers, head teachers, directors and other staff members.

7. The planning team presents the results of the above procedures to the Department of Planning and Improvement in order to facilitate discussion and modification.

8. The highest levels of the Ministry of Education are represented by the positions of minister, deputy minister and undersecretary assistants. They review the plan in order to make decisions about whether it is necessary to revise particular sections of it, or whether they should give their approval if they are satisfied with the overall plan.

9. After approval of the plan, the Ministry of Education shall send a copy of the Strategic Plan Report to the Supreme Planning and Development Council (which represents the Government in terms of planning) for final approval.

10. The plan is implemented after final approval, and all levels of education are required to execute the plan according to the regulations of the Ministry of Education.

The Emir's aspiration is for *"an educational system that contributes to economic and social prosperity in the State of Kuwait"* (Ministry of Education, 2008, p. 6). Essentially, his vision is to develop and modernise the education system in Kuwait. In 2012, the Emir further stated that:

> *We have to invest in the human, innovative and promising powers of our youth, enhance their gifts and urge their giving and participation in building the country. This shall be realized through the assessment and development of our educational entities and their curricula, and updating our educational system to be consistent with contemporary requirements. Building the future of our country should be supported by a process of developing the skills and qualities of the Kuwaiti national.*
>
> (Kuwait Government Online, 2012; Original in English)

In the wake of this statement from the Emir, the Ministry of Education and the World Bank came together to collaborate on a new design for the Grade One national curriculum, to determine where students would be at the age of 7 years. It was intended to be implemented at the start of the 2015

academic year, i.e. in September 2015. The Kuwait Education Program Achievement Report (Alkhoja et al., 2014) has developed a new curriculum for new updated and modernized educational reforms, with specific attention to the use of ICT as a tool for learning based on a set educational development framework, as shown in Figure 1 below.

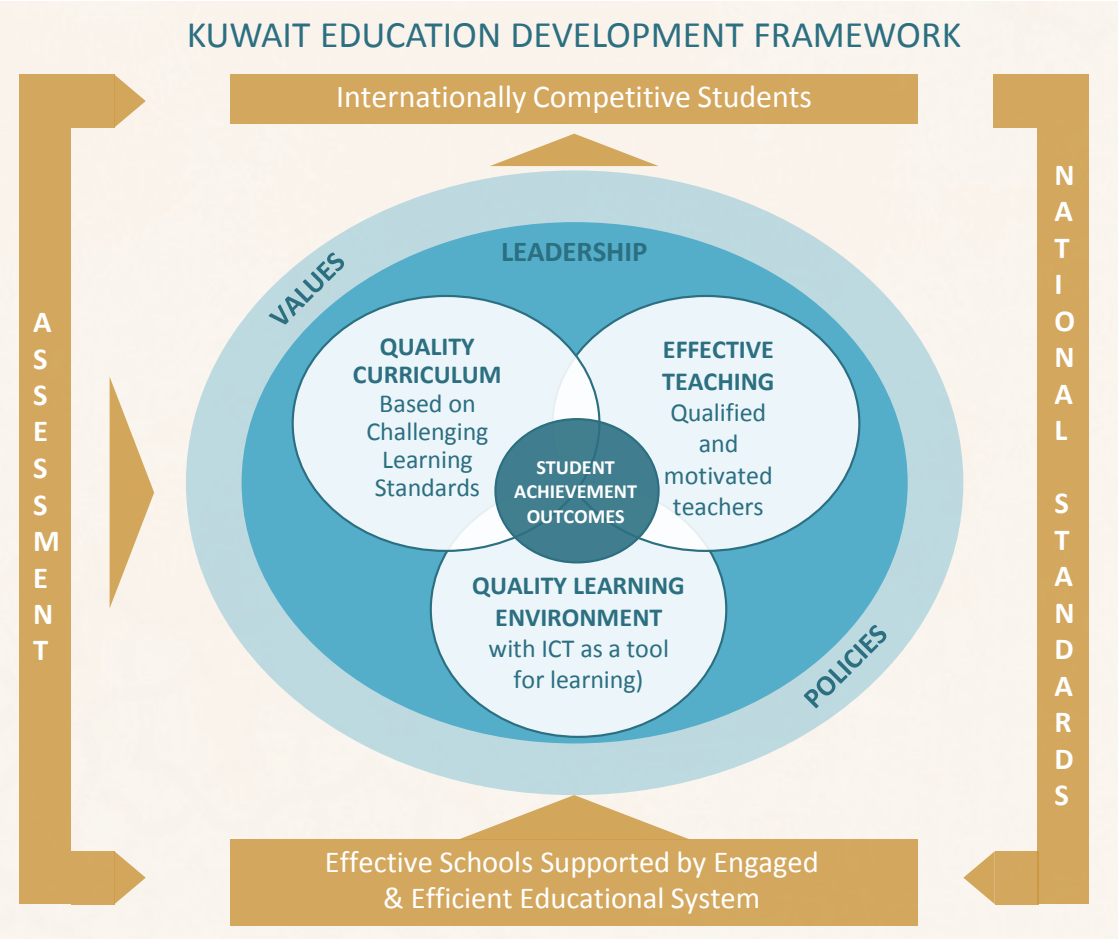


Figure 1: Kuwait Educational Development Framework (Alkhoja et al., 2014)

Thus, it would seem on the surface that the process for educational policy development in Kuwait is organised and planned to lead to successful implementation. How far this is the case in relation to the use of technology in education is the focus for this study.

1.2 Technology in Kuwait

Since 2002, Kuwait has acknowledged the importance of using information and communication technologies (ICT) in everyday life. The government has introduced several policies to build the country's technological infrastructure in schools and develop teacher capabilities in using ICT, including the mandate that all principals and teachers must obtain an International Computer Driving Licence (ICDL) in 2002 (Sharija and Watters, 2012, p. 425). According to the Kuwaiti Ministry of

Education's plan for 2004–8 (Ministry of Education, 2008), ICT is to become part of the national school curriculum, as well as being used in all teacher classes. Plans were formulated accordingly to reform the curriculum in order to use technology as a tool for learning. This reform is as a result of the Amir of the State of Kuwait and the National Assembly's demand for educational reform, which constantly calls for development of some kind. Consequently, over the last decade, the government has invested a great deal of capital to provide ICT resources in schools as part of this technological reform. Conversely, there has been less emphasis on the issue of how the technology will be integrated into schools and the curriculum (Safar and AlKhezzi, 2013).

Aldhafeeri, Almulla and Alraqas (2006) studied the impact of E-learning on Kuwait in the initial stages of technology implementation. Their study was based on a questionnaire distributed to teachers in a mix of elementary, intermediate and secondary school levels. According to the findings of the study, teachers regard the implementation of technology as helpful in supporting instruction, while offering a vibrant method of learning.

Safar and AlKhezzi (2013) conducted an experiment to evaluate and assess the effect and value of a blended pedagogical approach (which in their experiment involved combining traditional face-to-face teaching methods with ICT online-learning methods) for teaching, learning and students' academic achievement, motivation and attitudes using two groups: an experimental group and a control group. The groups were made up of undergraduate students from the College of Education at Kuwait University. Those in the experimental group were taught with a blended pedagogical approach, while the control group were taught using a traditional face-to-face teacher-led approach. The results of their study were consistent with previous studies and revealed that the students' work in the experimental group was of a superior standard to those in the control group. In addition, the experimental group had a better class attendance record, and the students earned higher final grades than their counterparts in the control group.

Consequently, Safar and AlKhezzi (2013, p. 625) made some recommendations to the Ministry of Education and the Ministry of Higher Education:

1. Encourage teachers to utilise a blended approach in teaching with an emphasis on constructivist theory, whilst mixing traditional teaching methods with educational technology.

2. Provide training sessions for teaching staff on how to effectively and efficiently use a blended approach in their educational environment.

3. Facilitate the teaching of staff via training sessions on how to efficiently and effectively integrate technology with the national curriculum in their own classrooms.

4. Develop additional strategies and measures for assessment and evaluation.

5. An advisory committee consisting of teaching and learning specialists, instructional technologists, instructional designers, subject matter specialists, evaluation and measurement specialists and experienced traditionalists should be formed.

6. Additional empirical research studies on a wide range of topics covering different disciplines, grade levels, socio-economic aspects and geographical locations should be conducted—in the State of Kuwait and the Gulf Cooperation Council, as well as in the Middle East region.

It is not clear the extent to which these policy recommendations were considered by the government, and the study outlined in this thesis was designed to consider the extent to which some of these approaches were embedded in the curriculum initiative relating to educational technology.

1.3 Kuwaiti National Curriculum: Grade One

The new curriculum is a competence-based programme that is student-centred and learner-focused. It aims to develop students' real-life knowledge, skills and attitudes. Teachers are required to attend an introductory training course. Additionally, teachers are expected to participate in school-based continuous professional development activities designed for Grade One in the context of implementing the new curriculum throughout the academic year.

There are two core components of the curriculum, which are discussed as follows (Ministry of Education, 2015, p. 6):

1. The Conceptual Component: The conceptual component consists of two documents that regulate the system as a whole. They are, first, *The National Curriculum Framework* and, second, *The Kuwait Teaching Plan for Grades 1 to 12*.

2. The Operational Component: The operational component consists of a relatively large number of official curriculum documents and tools, a list of which is provided below:

- Teaching and learning materials for both students and teachers. These include textbooks for learners and sets of guidelines for teachers, e-books, educational software, CD-ROMs and other digital aids, and learners' workbooks;
- Assessment and examination regulations, guides and instruments;
- Official curriculum-related instruction;
- Implementation guidelines and guidelines for teacher mentoring;
- Other support materials.

The curriculum attempts to address the different ways in which children learn. Teachers adapt their teaching methods, techniques and pedagogical practices as required. The teachers' current role is that of facilitators of learning, and they are therefore responsible for organising learning activities. The students' role is now that of explorers and thinkers; they are no longer thought of as simply passive recipients of information. Students are now encouraged to learn through activities and interaction.

The idea of the *Kuwait Primary School Curriculum for Grades 1-3* is that it 'promotes the use of ICT to enhance teaching and learning across the curriculum' (Ministry of Education, 2015, p. 29). *The Guide for Effective Teaching of the English Language in Grade One* (Ministry of Education, 2015) explains the reasons why the use of technology is important, as it is essential in order to learn and work in a digital society where devices such as smartphones, tablets and computers, in addition to the Internet, social networks and websites, dominate the day-to-day lives of people.

1.3.1 Technology Use in the Grade One English Language Curriculum

The Ministry of Education's Grade One Guide (Ministry of Education, 2015) explains to teachers that students are currently living and learning in the digital era. The guidance suggests that they are all highly literate in terms of technology, and they are fully acquainted with how to use all smart devices easily. Moreover, they find students are a global, social and technological generation. Therefore, via digital technology, there are various ways to communicate with students. The guide states that technology itself is innovative, which thus makes learning interactive and fosters an environment of collaboration and creativity. This is one of the key reasons why they believe that students enjoy learning with the aid of technology. Unlike the regular surveys that take place in the United Kingdom, such as by Ofcom (2014, 2019a, 2019b), about children's media use, no equivalent ones were found that have been done in the Kuwaiti context. Whilst there is a lack of statistical data to back this up, in the Kuwaiti context as in many other contexts, technology comprise tools with which children are very familiar and which they use in their everyday lives.

The curriculum guide sets out an entire section explaining to teachers the importance of utilising technology in their teaching, and its significance for student learning. The guide proposes that teachers integrate technology into their lessons whilst bearing in mind the necessity to provide students with digital images, posters, presentations, games, quizzes and puzzles, audio and video animations and so on. Supervisors advise teachers to teach with and through technology, which results in students developing their own technological skills at the same time. The curriculum guide also emphasises that students need to use technology too. Technology is, therefore, used for active learning, and not only as a tool for teachers to use in their classes.

At the same time, the curriculum was developed in such a way it is vital that the use of technology in learning and teaching is balanced (Ministry of Education, 2015). This essentially means that it should not be used all the time, as then both teachers and students become overly dependent on it. Instead it should be recognised and used as a teaching aid. Technology should be employed to help the learning process, seek information and stimulate practice. It can also be used to create student projects that require collaboration. In order for teachers to understand how to do this successfully, they need to undergo targeted professional development training in addition to ongoing school-based professional development.

1.3.2 School-based Teachers' Professional Development

The school-based professional development of teachers can be a means of facilitating technology integration. It falls within the remit of the school administration to organise this professional development, also to first identify potential and existing problems and obstacles that teachers face. Second, it is their responsibility to actively address the aforementioned issues. Finally, the school administration must design a plan to overcome these problems and obstacles. Furthermore, the head of department must also support and organise teaching and learning workshops so as to ensure the meaningful integration of technology between various staff in their departments in order to achieve adequate student progress. The head of department's duty is to communicate with subject supervisors and subsequently list the professional development topics that must be tackled based on the needs of their departments. The curriculum guide recommends that teachers observe each other's lessons and encourages teachers to create teacher networks internally between themselves, as well as externally with other schools. It further advises teachers and their heads of department to collaborate. In this exchange, teachers seek their advice, and the head of department subsequently offers them professional solutions.

It is as important to undertake research on the uses of technology in education in this context, as little research has been done on this area in the Kuwaiti context.

1.4 Aim of the Study and its Significance

An updated Grade One national curriculum (Ministry of Education, 2015) has been newly implemented in state schools in Kuwait. This study aims to investigate the barriers that are faced by English language teachers in implementing this curriculum, along with the elements that provide support for its implementation. It focuses heavily on technology-based implementation in English language learning, in particular on investigating the difficulties and problems that teachers may experience. Additionally, the study assesses the preparations that the Ministry of Education in Kuwait makes for English language teachers, whilst also determining the difficulties that teachers face during implementation of the new curriculum. The Grade One preparatory training programme that the English Language teachers attended is looked at specifically in this thesis. The purpose of this is to ascertain whether there were any limitations in this area that hinder teachers from operating effectively in their roles as educators. Furthermore, the study aims to understand teachers' points of view with regard to using technology in their pedagogical practices.

The study also aims to look at the rate at which English language teachers have adopted educational technology integration in their daily lessons. It seeks to determine this rate of adoption based on both teachers' skills and their knowledge surrounding the use of technology.

There are currently very few studies on the use of educational technology in Kuwait in general, and no published studies on the employment of technology in the process of language learning in Kuwait at all. Therefore, this study is the first of its kind in the educational field. At the time of publication, it is the first study to examine Kuwait's primary teachers' integration of educational technology into their pedagogies. The objective of the study is to provide an indication and pinpoint factors to relevant parties about what is missing in their preparations and how teachers feel about the use of technology in their day-to-day teaching practice.

The intention is that the study results will support three specific functions in the future. First, they can be employed as a reference to boost implementation of the new curriculum and make the process easier. Second, they can be utilised to inform the creation of a set of training and professional development courses to fill gaps in current approaches previously identified. Third, they can facilitate an increase in the rate of adoption of effective educational technologies in state schools in Kuwait.

1.5 Research Questions

To fulfil the research aims a primary research question was formulated and then sub-divided into further sub-questions to be addressed. The main research question for this study is:

What are English language teachers' experiences of implementing the new English Language curriculum in primary schools in Kuwait?

The main question is subdivided into sub-questions:

1. **To what extent did teachers embed technology in the new curriculum?**
2. **What are the barriers/ enablers that teachers faced in embedding technology into the new curriculum?**
3. **What were the rates of adoption of the curriculum innovation by the various teachers involved in the study?**

These questions inform the final area of investigation, which considers the implications of the findings for future policy development. This issue is addressed in the final chapter.

1.6 Structure of the Thesis

This thesis is divided into 9 chapters, which are detailed in this section.

Chapter 1 has provided an introduction to this thesis. It clarified the aims and significance of the study. Furthermore, there was a brief discussion, first on the educational policies in place in Kuwait; second, on the background of education in Kuwait; and third, an overview of English language education in Kuwait. Chapter 2 provides an overview of the educational context of Kuwait. It more specifically explores English language learning and teaching and its development in Kuwait's state schools.

Chapter 3 outlines one of the two theoretical frameworks for the study relating to teachers' experiences of educational technology policy and practice, which includes Ertmer's (1999) work on barriers and enablers in the implementation of technology use in classrooms. Chapter 4 outlines second theoretical framework, the concept of Technological Pedagogical and Content Knowledge (TPCK). It further on outlines previous literature in this area. It reviews research relating to the integration of technology in schools and the use of technology by children in the context of their

learning. It sheds light on the advantages and disadvantages of using technology in language learning, and discusses the benefits and drawbacks associated with the use of technology in state schools in Kuwait. Chapter 5 examines Rogers's theory of the diffusion of innovation (Rogers, 1983), which deals with how innovations affect schools. Moreover, it discusses teachers' perceptions and attitudes towards educational reforms. Chapter 6 states the research questions and documents the research philosophy used in this study. Additionally, it provides details about the method of data collection that was employed, the sample used and the approach that was followed to analyse the data collected.

Chapters 7 and 8 present and discuss the findings of both the qualitative and quantitative data. Also, links are drawn to other related literature and previously published research. Research questions 1 and 2 were addressed in the same chapter, Chapter 7, as they are closely related and were interlinked in teachers' responses, and research questions 3 was addressed in Chapter 8 in order to review the data in the light of Rogers' analytical framework.

The last chapter, Chapter 9, presents the main findings of the study, along with the implications and limitations of the research. It additionally states the contribution of knowledge this study makes to its field.

1.7 Conclusion

This thesis explores an important topic for the future success of Kuwait: the implementation of policy related to educational technology. The government has invested a great deal of time and energy in developing their policy, and so it is essential to consider the extent to which teachers in Kuwait have implemented the new curriculum initiative. The next chapter provides an overview of the educational system in Kuwait in order to offer a context for the study.

Chapter Two

2. Background to Education in Kuwait

2.1 Introduction

Prior to Kuwait's wealth boost because of oil discoveries, education in Kuwait was delivered in mosques by religious scholars who taught the provisions of Islam (the history of Mohammed the prophet and his close companions, including their traditions) and Quranic recitations. Furthermore, children were also taught some elementary reading (which smoothed the way for reading the Quran), simple writing and basic arithmetical techniques. The aims of the education system were simple: 'learning the Quran, mastering the language of the Quran (Arabic), observing the prayers, almsgiving, and other principles of Islam' (Al-Darwish, 2006, p. 69).

Later, as the country's economy kept expanding, in 1911 Al-Mubarakia school was established, through donations from wealthy Kuwaiti merchants. This school was the result of the merchants' needs themselves for a more formal kind of education. It was Kuwait's first modern educational school where commerce, letter drafting, and arithmetic skills were then taught. Following that geography, history and the arts were added to the curriculum (Ministry of Education, 2015).

A decade later, Al-Ahmadiya School was founded. Although it was Kuwait's first school to offer English classes (Al-Yaseen, 2000), just like Al-Mubarakia, the curriculum was based on society's needs, with a major focus on Islamic education as well as the Arabic language.

The collapse of the pearl-fishing industry marked the end of modern 1930s, because at that time that was what the economy depended on. A crisis in Kuwait lasted from 1931 to 1956, while the merchants supporting the schools were going bankrupt (Al Abdulghafoor, 1978). As a result, in 1935, the Amir of Kuwait realised that education had to be given state funding to protect it from any further economic pressures. There was another major reason why the government felt it needed to take full responsibility for education - the discovery and development of major oil reserves in Kuwait (Al-Edwani, 2004). In 1936, the Kuwaiti Council of Education saw the light and consolidated its assets in the public educational environment. Its first major contribution was the opening of the girls' school

Al-Woustta, where the curriculum included Arabic, Islamic studies and home economics (Esmaeel, 2001). The country was very keen to encourage people to take advantage of the free education provided (Al-Edwani, 2004), this being led by an ideology of both sharing the country's wealth and its fair distribution.

Because of the lack of education teachers in Kuwait, it was necessary for the government to recruit experienced teachers within their fields from other Arab countries. This soon became the norm. Student numbers kept increasing, eventually reaching 600 boys and 140 girls. Schools totalled four: three boys' primary schools and one for girls. The number of children kept increasing, and by 1945 there was a total of 17 schools in the country (Ministry of Education, 2015). To handle these rapid changes, in 1943, the Kuwaiti government asked the Ministry of Education in Egypt to assist them in organizing a curriculum to be put into effect in state schools. According to Al-Jassar (1991), the curriculum, although it adopted the Egyptian style, was modified to cater for the needs of Kuwaiti society at that time. That curriculum was used until the government increased the educational budget. Following a budget increase, in 1955, educational experts were asked to assess the educational process in Kuwait (Al-Jassar, 1991).

A draft assessment suggested dividing the education system into four key stages:

- Kindergarten – starting at age 4;
- Primary stage – ages 6 to 10;
- Intermediate age – ages 11 to 14;
- Secondary stage – ages 15 to 18.

(Aldhafiri, 1998)

Following the state's independence on 19 June 1961, in addition to establishing the first ministry of education in Kuwait, 'the Kuwaiti government devoted substantial human and economic resources to enhance and to support the educational process' (Al-Nwaiem, 2012, p. 23). Later, the Compulsory Act, Law No. 11 was initiated in 1965 making school attendance for both girls and boys between the ages of six and fourteen years obligatory, stating:

> Education is free from kindergarten to university and there are equal opportunities for boys and girls, for all Kuwaiti people. Education is compulsory from kindergarten to middle school level.

(Ministry of Information, 1996, p. 18)

The state is seen as being fully responsible for educating and protecting the country's youth: "The State cares for the young and protects them from exploitation and from moral, physical, and spiritual neglect" (Kuwait's Constitution, article 10, chapter 2). Moreover, article 13 explains that, "education is a fundamental requisite for the progress of society, assured and promoted by the state" (Kuwait's Constitution, article 13, chapter 2), and then continues by stating "the state shall promote Science, Letters, and the Arts and encourage Scientific research therein" (Kuwait's Constitution, article 14, chapter 2). So now education is no longer a privilege, but a guaranteed constitutional right.

Article 40 in chapter 3 of the Kuwaiti Constitution specifies that:

I. Education is a right for Kuwaitis, guaranteed by the state in accordance with the law and within the limits of public policy and morals. Education in its preliminary stages is compulsory and free in accordance with the law.

II. The law lays down the necessary plan to eliminate illiteracy.

III. The state devotes particular care to the physical moral and mental development of the youth.

Al-Edwani (2004) reflects that this Act improvised gender equality, which has helped to increase the number of female students noticeably. In the academic year 1966–1967, the year the Act was enforced, there were only 42,044 female students enrolled in public schools, whereas there were 56,033 male students enrolled. By the academic year 1999–2000 the number of enrolled female students rose to 158,504 and males to 154,921. This change in numbers indicates that the government's encouragement of equality between the sexes has indeed succeeded.

Then, in 2004–2005, the Ministry of Education changed the structure of the key stages mentioned above. The new stages are now:

- Kindergarten – ages 4 to 6;
- primary stage – ages 7 to 11;
- intermediate age – ages 12 to 15;
- secondary stage – ages 16 to 18.

The new implemented structure shows a reduction in the secondary stage by a year and an extension

of the intermediate level by a year. This adds an extra year of compulsory education. This critical change is made in the hope of achieving the unification of formal educational stages with the Arabian Gulf Council Countries (Al-Edwani, 2004).

The Ministry of Education of Kuwait have complete control over all decision-making, in addition to expenditure on education. Article 13 in chapter 2 of the Kuwaiti constitution states that, 'education is a basic element to be provided and supervised by the state' (Ministry of Information, 1996; p. 34). Its responsibilities extend to covering everything including providing schooling establishments, furniture, equipment, teaching aids, school libraries, textbooks and teachers' guides. The government is also responsible for schools supervision, the development of school curriculums, in-service teacher training and salaries.

In the next section I have discussed the history of learning English as a second language in Kuwait as background context for the study. In chapter 3, I have discussed the use of technology in education and language learning in other contexts that I found similar to the Kuwaiti context, as there are few studies that consider this issue in Kuwait.

2.2 The English Language in Kuwait

Back in the 1950s, when both British and American companies started to explore for, produce and export oil for the country, it became clear how the language barrier had to be handled and eventually transformed from what Karmani (2005) describes as "petroleum-English" to the actual use of proper language as a lingua franca.

The matter had come to the government's attention and resulted in introducing English as a main compulsory subject in state schools, although Al-Darwish (2006) claims that English was in fact taught prior to discovery of oil, at the American Medical Mission founded in 1913. The English that was taught at that time was intended to ease communication between Kuwaiti and Indian merchants during trade.

English started to be taught as a compulsory subject in intermediate and secondary schools; therefore, students started learning the language at age 11.

2.2.1 English Language in state schools in Kuwait

The classes offered were based on basic language needs that prepared students for their future needs

(Osman, 1996). The main goal was to prepare students by teaching them the necessary language skills to help learners communicate fluently and correctly in different situations by mastering the four language competencies of listening, speaking reading and writing. 'It aims to build up the learners' linguistic competence and develop their performance in order to enable them to use English effectively, fluently, and accurately through practising the four language skills' (Kamil, 2011, p. 33).

Students were evaluated via continuous assessment throughout the academic year, as well as an end-of-year exam. Teachers were supervised and evaluated on their performance and work by the ELT Inspectorate who conducted regular visits to schools. The inspectorate also ran orientation courses for new teachers, and in-service training for experienced ones (Ministry of Education, 1993).

At the very beginning, the grammar-translation method was used. The focus in class was mainly on vocabulary and grammar. Students memorised long lists of English lexicon translated into Arabic. They were also given various grammatical rules that they had to memorise as well. However, they did not have any chances to practise the language in genuine situations outside the classroom. This inevitably affected their learning motivation. In addition, the ministry became aware that the standard of achievement of language was disappointing, together with the targets and objectives of the proposed syllabus not being achieved. A re-evaluation was instigated as a result of the taught curriculum, the textbooks, the way teachers were trained and the teaching methods used in class (Al-Nwaiem, 2012).

Accordingly, from the 1940s to the '60s, the audio-lingual method was implemented. The focus had now changed to developing speaking and listening skills. Students therefore did drills, repeating English phrases and simple vocabulary, and listened to various conversations between native speakers on tape. Because the emphasis was on oral skills, writing and reading skills were neglected, and so students were neither able to speak fluent English nor capable of writing the language in a grammatically correct way. Based on this argument, in the 1970s, the communicative teaching approach took over and lasted unto the 1990s (Al-Darwish, 2006).

The language focus has again shifted. Mabrouk and Khalil (1989) argued that accuracy in language was now suffering, because teachers were focusing on obtaining fluency in English through the use of diverse situational language and functions at the expense of correct grammar and punctuation. The result was that most secondary students graduated not able to read or converse properly in English (Al-Mutawa et al., 1985).

2.2.2 English in state schools post-Iraqi War

After the liberation in 1991, there was an obvious Western influence on the population. Most citizens had then been exposed to foreign culture and felt encouraged to learn foreign languages, English in particular (Aldhafiri, 1998). Elham Mohammed (2008) describes the English language then being considered as the language of liberation, further explaining the impact thus:

> …the occupation has made the Kuwait population different from that in pre-war Kuwait, because of the American influence. Interest has grown in the English language. People have become absorbed with foreign culture and parents have encouraged their children to study foreign languages, in particular English. This has resulted from a massive growth in the need for English in everyday communication in the society.
>
> (Mohammad, 2008, p. 3)

Changes had to be made. The previously low standard of taught language was unacceptable, especially after the invasion where the society understood first-hand the importance of acquiring a second language.

The dissatisfaction with the level of language attained at the end of the secondary level (Al-Mutawa, 1994a) led to the Ministry of Education mandating that English be taught at the start of primary schooling, at the age of six specifically, in order to increase the years of study from eight to twelve (Al-Mutawa, 1996b). Accordingly, the government allotted the Ministry of Education funds to comply with the new changes. Primary schools were now being stocked with English books for libraries, appropriate teaching aids (such as tape recorders, flash cards, overhead projectors), and language computing laboratories, for example.

Yet, this course of action had no clear plan to follow. The first dilemma was the limited number of teachers available. To overcome this, new teachers from Arab countries were recruited, mostly from Egypt and Syria, in addition to Kuwaiti ones, to cover the shortage. Their qualifications were not adequate. Most were new graduates, not necessarily specialized in primary level teaching nor trained in it. The Kuwaiti ones included those who had graduated from Art colleges specializing in English literature. Those in particular had no teaching background. In order to compensate for this, that group of "unqualified" teachers had to undertake a two-week training course on how to teach English prior to actual teaching itself (Al-Mutawa, 1997).

As for the curriculum itself, there wasn't one set by the Ministry as it did for the intermediate and secondary levels, nor was it ready to publish one at that time either. Thus, the ministry implemented

and used the United Arab Emirates (UAE) curriculum as the official textbook and workbook for primary level, which include all the macro-skills: reading, writing, listening and speaking.

By 2002, the Ministry decided to publish its own curriculum for the primary stage level. It came up with a new series called 'Fun with English' that it had designed to accommodate the Ministry's aims, and that included encouraging student communication in class in English from day 1. The series teaches through a variety of activities such as games, songs,and comic-book-style stories. It integrates structural and communicative methodologies as a way to ensure that students learn the language accurately (Ministry of Education, 2003). Unlike the United Arab Emirates curriculum used at first, the new curriculum now mainly relies on listening and speaking; writing and reading are not introduced until Grade Three.

The absence of writing has not concerned educational researchers or academics as much as it has teachers and parents. In the United Arab Emirates curriculum writing was implemented. In Kuwait, however its absence now upsets both teachers and parents (Jaffer, 2003). Parents worried about what was being taught in the class as they were not able to monitor their children's school progress. In the same academic year, teachers and supervisors presented a report explaining that the students seemed bored and uninterested in their lessons, because of the reported drill routines used in them. They claimed that as a result of writing being an element missing in the classroom, the loss of motivation within students was apparent (Jaffer, 2003). It is vital to point out that the Ministry has sole authority over which books are to be used in schools, so neither teachers nor learners have a say or make a contribution to what kind of curriculum and textbooks are to be implemented in their classes (Al-Nwaiem, 2012).

Between Grades Six and Nine, the intermediate level, the Target English series is used. Again, the Ministry of Education prepared and designed these books to serve as a continuous syllabus following on from the primary one. When starting intermediate level, students are encouraged to gain linguistic independence. They are encouraged to use dictionaries to look up new vocabulary rather than relying on inference through context as they did in the primary stage (Ministry of Education, n.d.). Moreover, verbs and vocabulary move on to more complex types. 'Mastery of more difficult vocabulary indicates progress in the complexity of language, usage and patterns' (Al-Rubaie, 2010, p. 36). The level includes a generous mix of oral techniques to be used in class: ask and answer conversations, role-playing, and simple drama. Students learn how to differentiate between informal and formal speech, facts and opinions. Translation is also implemented, where students are exposed to formal and informal speech. This leads on to teaching students to write short letters, the skill of summarizing texts, and some composition writing (Ministry of Education, n.d.). When compared to the curriculum

in the primary stage, it is evident that intermediate-level learning English encourages self-motivation and self-confidence.

2.3 Conclusion

This chapter has outlined, briefly, the approach to language learning in the school curriculum. This provides a background context for this study, which focuses on the experience of English language teachers in relation to implementing curriculum changes with regard to educational technology. In the next chapter, research relating to the implementation of educational technology in schools is outlined, and some of the key theoretical strands in the thesis are outlined.

Chapter Three

3. Integration of Technology in Schools

3.1 Introduction

This chapter discusses integrating technology in schools and the use of technology with students. I review how the current student generation in schools are capable and knowledgeable in using digital technologies. I also review matters relating to technology integration in schools, technology use in language learning, and technology use in Kuwait. I use technology as a broad term in the thesis, and occasionally refer to specific tools such as the use of iPads or a data show projector.

3.2 Use of Technology by Children

The number of children that use technology has shown a significant increase in recent years in both the UK and Kuwait. In the UK there are figures that show that the most commonly used device is now the portable tablet in addition to smartphones, because of their mobility (Rideout et al., 2010). The Kuwaiti context is quite similar. It is not exactly the same, but they are not as different as one might think. The Children and Parents Media Use and Attitudes Report for 2018 in the UK (Ofcom, 2019a) indicated that tablet usage in the UK reached 76% in 2018 for children aged 5–15 years (three in four), whilst 85% of children aged 5–7 years had access to a tablet device (Ofcom, 2019b). With regard to ownership, the percentage rose from 35% in 2017 to 42% in 2018 amongst children aged 5–7 years. Moreover, 44% of the 5–7 age group watch TV on devices (mostly tablets), while 63% spend 7.5 hours per week playing games (Ofcom, 2019a). Although I am using UK Ofcom data here, and the Kuwaiti context is different, there is good reason to believe there are similarities between the two contexts. The use of mobile phones and tablets in Kuwait is also very high, with online games being equally popular in Kuwait, for example.

The Ofcom report (2019a) states that the number of UK children aged 5-7 years who access the Internet has reached 82%, with 67% of them accessing the Internet on a tablet device, although the general use of tablets for the 5–15-year-old age group decreased slightly from 2017 to 2018, from

78% to 76%. Regardless, because of the ease of Internet access, children are spending more and more time on the Internet using tablets, for the 5–15 age group it has reached 92% (Ofcom, 2019b).

As Rideout et al. (2010) mention, the numbers will keep increasing in the coming years as online media are becoming more readily available on mobile devices that provide everyone with easy and fast access, anytime and anywhere. As the United Kingdom's Ofcom (2014) research suggests, teenagers are now spending more time using media and communicating online than they spend on sleeping. The simplicity and ease of access to smartphones and tablets has changed our lives by squeezing more activities daily into our lives.

3.2.1 Digital Natives

Both Marc Prensky and Diana Oblinger describe the new generation of students as either Digital Natives (Prensky, 2001a; Prensky 2001b) or the Net Generation (Oblinger et al., 2005). Again, both describe them as having 'spent their entire lives surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other toys and tools for the digital age' (Prensky, 2001a, p.1). Prensky further explains that such students take in and process information in a very different way than the generations before them. He goes so far as to say that 'our students' brains have physically changed – and are different from ours – as a result of how they grew up' (Prensky, 2001a, p.1).

In line with Prensky and Oblinger, McNeill et al. (2011), Gros (2007) and Frand (2000) suggest that digital natives do indeed process information rapidly, do not tolerate long lectures, prefer to be active learners rather than passive ones, use technology for fast access to search for information, are great at multi-tasking and ultimately rely heavily on technology to communicate whether it is socially or professionally.

On the other hand, Kirschner and De Bruyckere (2017) state that so-called digital natives do not have profound technological knowledge. They explain that most of their knowledge consists of the use of office software, email, Internet search engines and social media platforms. Therefore, the digital natives term does not apply, as digital natives need substantial amounts of training on the use of technology to support learning processes. In accordance with Kirschner and De Bruyckere (2017), having digital literacy taught as a subject to students in schools of education is now essential.

A decade later, in 2011, Prensky clarified that the digital natives he referred to was just a descriptive metaphor for those who were born after a specific date, as well as those who were born with complete digital knowledge; that many fail to comply with the description is proof that it is just a myth and not an actual fact. He explains that soon technology use will be universal. There will be no more digital immigrants (those who were born prior to technology and had to learn how to use it). He argues that we will shift to a new paradigm that he names 'digital wisdom' (Prensky, 2011).

Despite the lack of quantitative evidence, Prensky (2001b) states that it is clear that young people have easy and fast access to massive amounts of information through digital resources. He adds that by using their 'digital wisdom' they are able to filter data found based on their needs. It is important to note that technology, advanced though it may be, can never replace human intuition. Technology, as Prensky (2011) sees it, enhances our memories by providing us with electronic storage. This helps us by providing complex analysis in a much shorter timescale than used to be the case when done manually. But again, technology cannot explain or interpret the results found in the same way as can the human brain. Technology has altered the way we think and manage our tasks, which happens through our wisdom. Prensky (2011) explains that as technology advances, the human wisdom advances too, to merge with the latest technology used.

The difference in the way technology is used, according to Prensky (2011), concerns the culture of digital use, and 'younger people's comfort with digital technology, their belief in its ease, its usefulness, and it being generally benign, and about their seeing technology as a fun 'partner' that they can master' (p.17). Despite the lack of statistical evidence, we know that in the Kuwaiti context the use of technology by children is high, with many of them owning or having access to a tablet or smartphone. Children's use is mainly for playing games online, such as Fortnite or Minecraft, which are extremely popular games in Kuwait as they are worldwide. There are likely to be some differences between Kuwait and the UK, but the popular use of similar games is still apparent.

The idea of digital natives is not just having access to or using technology, but that it changes, particularly to one's orientation to learning. This in turn means teachers need to change their pedagogic practice. I am still using the concept to describe some of the teachers, even though the term digital native is not so helpful in Prensky's view, because I believe having access to technology does not necessarily indicate teachers are ready to teach with it. I am using it only because I find it helpful to describe the digital generation knowing how to use technology in a general manner, and not specific to teaching, in my context.

The Internet has been widely used for over forty years. Yet of a population of about 7 billion, only 3 billion have Internet access, approximately 43.4% the world population, i.e.less than half of the world. In June 2014, among the North American population, Internet access was at 87.4%, while in the Middle East it was only 48.3% access (Internet World Stats, 2014). This shows that the Internet technology is not always readily available to the people Prensky refers to as "digital natives". Consequently, this same generation may not fit with his newer description of "digital wisdom" either, as the statistics prove that less than half of the world are using this digital technology, and keeping in mind that access to the Net does not necessarily mean actually using it.

Kennedy et al. (2008) and Jones and Healing (2010) reported separate research studies, on first-year university students in Australia and England, respectively. The range of technologies students had access to varied by age within the same generation. Levy and Michael's (2011) case study concluded that students in schools are not a homogenous group as 'They exhibit significant variation in technological skills and abilities, as well as traditional skills' (p.96). This indicates differences are not generational as Prensky claims, therefore his label is inaccurate. We should be attentive when labelling large generations, as this will indicate that all of them are equal in characteristics, which is impossible to happen or achieve. Kenedy et al. (2008) and Margaryan et al. (2011) found that while a generation of students may have a foundation in technology related skills, these skills vary in range and level across them. Bylin (2009) concluded that digital natives cannot be equal, because 'each of them has varying degrees of access to digital technologies, literacy skills, and participation within their peer culture' (p.1). The studies mentioned all demonstrate evidence that the "Digital Natives" perception is not precise, and thus should be discarded, including any other terms associated with that assumption. Thus, while I do not completely agree with Prensky's (2011) digital natives concept, I am still using it in my study but only to describe the generation that knows how to use technology and has access to it. I do not myself agree with Prensky that this means they know how to use technology for specific purposes, such as learning and teaching.

3.3 Technology Integration in Class

Knowing that students in the United States between the ages of 8 and 18 years old are spending over 7 and ½ hours daily on technology and media (Rideout, 2012), schools should change their practices in response to this phenomenon. Technology integration in schools is now inescapable. Lewis (1999), based on the United Kingdom's Dearing Report (National Committee of Inquiry into Higher Education et al., 1997), describes how even as early as 1997 there were several ways of integrating technology into education: as a stand-alone curriculum, as part of teaching material, for school

administration, and more importantly as ‘a learning system through which teaching and learning are managed, transacted and recorded regardless of the location of the student’ (p.149).

In classroom environments, technology integration is expected to increase students’ motivation to learn in an interesting way, in place of the usual traditional approaches. Kristen Purcell, associate director for research at the Pew Internet Project, suggests looking at the use of technology from a positive perspective. It is clear that the education system has to change and adjust to the way students nowadays are learning. Many teachers share her point of view (Richtel, 2012).

Tapscott (2009) believes that education needs to change because of the technological and Internet evolution, adding that education needs to follow younger people’s trends, meaning that the current learning environment should shift from a teacher-centred one to a learner-centred one. Devlin et al.’s (2013) views match with Tapscott, explaining that this shift would empower teachers to prompt more critical thinking in class rather than the traditional class lecture. Ideally, it would include active learning, solving activities, and student/ student interaction. Engaging the students, as Devlin argues, is key to their motivation.

Shyamlee and Phil (2012), in line with Tapsott and Devlin, have talked about how technology today has provided so many options to elaborate teaching styles and methods. Technology use in class helps teachers in shaping their classes to become an enjoyable productive learning environment, which in return can capture students’ interest, resulting in encouragement to them to engage more in class. The PEW project, undertaken in 2012, indicated that 75 per cent of participating teachers have seen their students transform into self-sufficient researchers with the help of technology (Rideout, 2012).

Learners overall enjoy being active learners in class. They do not want to simply be passive recipients of information, but rather to be in control of their own learning. Students that are engaged in their own learning end up with better outcomes (Park and Jeong-Bae, 2009). Lam and Lawrence (2002) see the necessity for learning to become more student-centred, agreeing that there has to be a shift from the traditional roles of students and teachers in class. Learners have to gather their own information, negotiate their meanings themselves, and make their own decisions and, overall, be responsible for their own work. The teacher’s role in class is changing too. The teacher is now the ‘facilitator, a resource person and a counsellor rather than the only authority and decision-maker’ (Lam and Lawrence, 2002, p. 305).

As Means (2010) has explained, integrating technology not only needs massive funds, but also continuous effort to succeed. Bancheri (2006) feels that the teacher’s role has expanded rather than

narrowed. Agreeing with Bancheri, Berrett et al. (2012) state that 'educational reform involving technology integrations is often directed at changing the teaching methods of educators or modifying the delivery of the 'product' to students' (p. 202). Teachers advise their students which tools to use to acquire knowledge and guide them to filter useful information found, whether it is from the Internet or printed books. Park and Jeong-Bae (2009) claim that teachers are students' motivators, they create meaningful environments supported by technology, which may include Web technology. The use of animation and multimedia in the classroom affords the teacher the advantage of giving a more colourful and stimulating lecture, resulting in the students' attention being engaged during class. However, sometimes, the traditional ways are important to maintain to some extent.

Shyamlee and Phil (2012) analysed the use of technology in English language teaching and indicated that it is essential to not let technology take over the role of the teacher in her classroom. They argue that technology's purpose is to be an aide to learning, and not a target to teach with. They suggest that the overuse of multimedia technology in a language class, such as audio and visual effects, lessens the interaction between teachers and their students. This results in multimedia affecting students' chances to learn and practise speaking the target language, and makes them 'viewers rather than the participants of class activities' (p.153). Multimedia use needs to be interactive to encourage students to engage with each other, and with the teacher as well. The potential of technology is in making lessons increasingly interactive.

Kemp et al. (2014a) interviewed a couple of teachers who agree with the concept of using technology as a tool for learning. At the same time, the teachers believe that 'technology is an extension of the person, not a replacement' (p. 5), as well as the fact that nothing can replace either facial expressions or the tone of voice of a teacher for their students. Rideout's study (2012) showed that 8 in 10 teachers (about 79%) had used some kind of technology in their classes, while 36% of them had used it quite a lot as a teaching tool already. Using technology as an educating tool opens up new horizons, in addition to important and exciting possibilities in education. Merrill (2007) claimed interactive learning promotes students' motivation to study. It connects their previous knowledge with new knowledge. Also, learning becomes permanent when done through situations mirroring real-life scenarios. On the other hand, Eristi et al. (2012) point to Simmons' (2011) evaluation of technology in schools as having not reached its full potential yet with regard to students' skills and knowledge. According to Georgina and Hosford (2009), Palak and Walls (2009) and Dillon- Marable and Valentine (2006), learning with activities that stimulate multiple sensors draws the students' attention and interest. These are examples of meaningful learning.

In the Rideout project (Richtel, 2012), educators said that with the use of technology in their classes they had started to use a more dynamic and flexible teaching style. The former teaching methods used are in need of change. Thomson (2003), Devlin et al. (2013) and Lewis (1999) all feel that teachers should adopt a constructivist approach in their teaching. Devlin clarifies that when a constructive approach is applied in class, the teacher comprehends that the knowledge being taught exists within the learner himself (Devlin et al., 2013). Thomson (2003) adds that in a constructivist approach to teaching, teachers tailor the learning experiences in their classes to allow students to generate their own level of work and take advantage of peer learning within their small environment. Accordingly, The Dearing Report (National Committee of Inquiry into Higher Education et al., 1997) agrees that teachers' roles have to change with the use of technology. It is well established in the literature that different pedagogical approaches are not teacher-directed as teachers upgrading their roles in class together will enhance their pedagogy. Therefore, teachers need to consider changing their role in class and stop being in a teacher-centred environment, but rather in an interactive student-centred one. Teachers need to learn and enhance their pedagogies for better teaching.

Prior to introducing technology in schools, teachers need to plan their lessons ahead carefully, including what kind of technology they will use in class to interact with their students, not just for content presentation. Teachers have to be careful not to use technology in a way that isolates them from their students, but engages with them together. As Eristi et al. (2012) describe, 'technology based interactions between teachers and students which will allow them to use technology effectively, could lead to effective technology integration' (p. 40). Moreover, she adds it is important to note that when starting to integrate technology in school classrooms, a steady comprehensive plan needs to be undertaken beforehand to result in well-planned development of teaching-learning activities.

The next section moves on to discuss literature relating to the use and integration of technology in early childhood education.

3.3.1 Technology Integration in Early Childhood

Technology has always been an important part of classrooms, and although the original intent of its use has changed little over the years, forms of technology have evolved considerably (Kucirkova, 2018). It is through play that children create meanings, and in order for them to come to conclusions easily and comfortably about the role of emerging technology in their lives, it is essential that play that reflects contemporary cultures is encouraged (Arnott and Yelland, 2020). The integration of digital technologies may be even more important today, with the younger generation being more

dependent on such technologies than ever before as they have grown up in a technology-driven society (Ahmed and Nasser, 2015).

Research by Kontovourki et al. (2017) has determined that the most effective strategies for motivating children are exploratory discussion, joint problem-solving, and collaborative learning. The focus has been put on promoting the inspiration, interaction, and development of diverse skills and expanded understanding of literacy through digital platforms and technologies for children. Additionally, the researchers warned that 'children's engagement with digital technologies needs to be adequately supported, either through teachers' own development of skills and understandings of literacy in the digital age' (p.18).

There are both positive and negative aspects of the role and integration of technology in early childhood pedagogy (Erstad, Flewitt, Kummerling-Meibauer and Pereira, 2019). Both teachers and students have expressed concerns about the utilisation of technology in childhood learning. However, the pedagogical discipline of science and mathematics has integrated technology seamlessly and has created a significantly heightened experience for the students (Hembre and Warth 2020). The use of technology in the learning of language and multimodal-meaning making is an underdeveloped area, and teachers across different countries typically still prefer traditional methods of language learning (Tafazoli, Parra and Abril, 2017). There is also a general lack of technological training for teachers, which could facilitate the innovative and effective employment of technology in language learning.

There is a growing body of literature which seeks to pinpoint the optimum method of integrating technology into language classrooms and identify the effectiveness of specific technological gadgets and applications for better language learning. The general consensus about technology integration in early childhood has been positive, and most of the literature suggests that it is through a collaborative and community-based approach that the technology can be used most effectively (Erstad et al., 2019; Kucirkova, 2018). Technology has been used for foreign language learning, English language learning, storytelling, story writing, digital collage, and vocabulary building.

The varied interactive teaching opportunities offered by digital technologies generate unique benefits for students when used properly. Based on the findings of Zhetpisbayeva and Shelestova (2017), the utilisation of such technologies is valuable in the development of a wide range of communicative abilities and skills, especially those associated with learning a foreign language. Another key factor is an awareness of how best to keep children engaged in learning (Neumann, Merchant and Burnett, 2018).

Recently, the use of digital technologies in early childhood classroom settings has increased (Daniels, 2017). Educators are finding new ways to implement digital technologies in classroom settings to encourage interaction and improve learning outcomes. In fact, in some countries, the use of digital and touchscreen devices across early education settings may now be considered commonplace (Daniels, 2017). Conventionally, media usage in an educational context has been fixed and constricted, meaning that children have minimal freedom or opportunity to learn from them. Many teachers have very limited training in effective use of the media platforms, and the perceived associated risks also differ, as parents have diverse levels of expertise over the control of technology and how to make the experience safe for their children. In this regard, Marsh, Perez, and Morales (2019) comment that there is a general lack of guidance for both teachers and parents to support the children's play with technology and proper training is needed for early years' teachers so that technology can support playful pedagogical practice.

Looking at how young children use technology, it is apparent that although they are in the early stages of literacy development and only have basic reading skills, they nevertheless utilise a number of forms and strategies to determine meaning. This curiosity is important for establishing new foundations for learning that build upon these natural efforts and outcomes. Technology has incredible potential to create experiences that help to promote all types of literacy and learning in young children (Erstad et al., 2019). Despite the hesitancy of adults, very young children are attracted to and often master technologies such as tablets and mobile phones even before they have said their first sentence, let alone started to read. Even prior to reaching the age of one, many children are capable of autonomously swiping the screen to open the user interface (O'Connor, 2017). Additionally, toddlers are also known to be able to access different forms of digital media such as navigating YouTube, digital games, and diverse kinds of tablet applications (age appropriate) (Harrison & McTavish, 2018). These are indicators of the competency of very young children as digital media users.

Many students are bringing their learning experiences with various digital devices from the home setting to the classroom setting, which carries both advantages and disadvantages for the students and teachers (Daniels, 2017). Experience with devices improves the students' ability to utilise them in a classroom setting. Engagement with digital devices may now be regarded as a significant source of knowledge acquisition for many students. Thus, early literacy educational programs may be enhanced through the implementation of digital devices. However, the increasing use of technology in almost every aspect of the modern world does not always translate well into classroom practice (Burnett and Merchant, 2018). There are convergent issues regarding the aspirations of constructivist theory in terms of the development of enhanced and richer learning environments.

Kucirkova (2018) maintains that because each child has diverse needs, a balance must be found between the individualised approaches and standardised practices of early childhood learning, thereby creating a cohesive practical approach. Significantly, during the early childhood years, children have access to many forms of technology including mobile phones, iPads, and computers, and they also use a range of applications. Kucirkova (2018) also considers the use of context; that the integration of technology in childhood education only makes sense when the children are being provided with the basic necessities of learning. She argues that in developing and underdeveloped countries, where children often do not have access to proper schooling, food, or shelter, providing them with technology seems a lower priority.

The idea of content is one of the most important factors that needs to be considered when it comes to early childhood learning, as it is the content that the children are being exposed to that will determine whether the integration of technology is generating positive or negative results. As the children can access the internet and other application such as YouTube, there is a risk that they could be viewing age-inappropriate content. This calls for a standardized approach to ensure that the learning and information that the children are receiving are appropriate for their education (Kontovourki et al., 2017).

Many educators have sought to explore the full range of educational possibilities that touch screen technologies such as iPads provide. It is likely that the increased reliance on iPads across some early education settings may begin to influence the pedagogical practices that are implemented (Daniels, 2017). Just as iPads and other digital screen technologies are being integrated into existing lesson plans, the range of interactive exercises available in such environments is also becoming more prevalent. Ahmed and Nasser (2015) assert that the use of iPads in classes has been shown to create ‘more effective and interactive lessons’ (p.753). In Neumann, Merchant and Burnett's (2018) study, the teachers reported that the children enjoyed using tablets. In fact, the teachers felt that the children learnt quickly using applications, and furthermore, it kept them engaged in learning. They found tablets to be ‘popular tools to engage children in play’ (p.8), while simultaneously gaining skills and knowledge. According to Ahmed and Nasser (2015), when students are shown how to use certain applications on iPads, they have the freedom to create their own work and learning environment. They can produce movies on iMovie, prepare a presentation on KeyNote, or create a stage play on Puppet Pals. These are all examples of learner-centred learning, which is the path towards independent learning.

Flewitt, Messer and Kucirkova (2015) analysed how iPads offer a variety of innovative learning opportunities for early literacy learning, whilst also introducing a number of challenges for teachers, parents, and children. The researchers found that iPads offer a wide variety of instructions and materials

which have relevant applications for the development of literacy in young children. They can help develop collaboration strategies, communication skills, and independent learning. However, overreliance on such devices may lead to poor adaptability to other learning modes, which is ultimately detrimental to literacy development. Despite the many benefits mentioned above, there are also drawbacks (Flewitt et al., 2015). Notably, teachers had to spend many out-of-school hours looking for appropriate applications to support learning objectives, and they subsequently dedicated significant time and energy to organising lessons around the technology. Technological problems frequently arose, disrupting the learning process in the classroom. Nonetheless, as they acquired more confidence and experience in using iPads, they were optimistic that such issues would resolve (p.302).

Researchers found that the user-friendly design of iPads presents relatively few technological obstacles for young children, who rapidly become active and knowledgeable learners (Flewitt et al., 2015). This represents the sort of ideal outcome of the constructivist paradigm, where the individual learner is able to identify what to learn, and subsequently master it without significant assistance beyond illustration or modelling of the behaviours and actions. The leveraging of such natural outcomes is not the current approach in the classroom; however, young children are coming to the classroom with considerable experience and knowledge of such technologies, especially as it relates to mobile technologies and apps.

As per Gillen et al. (2018), there are many beneficial learning methods that remain unprompted, the most important of which is the collaborative learning method, whereby children learn with the help of an adult. During the early educational years in particular, the interpretation of sounds, images, written text, and language learning through a collaborative method could be one of the best learning experiences for children. Teachers of early childhood education are incorporating these new technologies through digital books used for storytelling, multimedia features for increased engagement, open ended apps used for development of stories by children, and even digital games that support learning. Research conducted by Arnott, Palaiologoub and Gray (2019) concluded that children are significantly more adept than adults with regards to moving from one technology to another, and effortlessly traversing between online and offline learning. This can be used by educators and teachers alike to create a well-integrated curriculum that will include both online and offline elements in order to ensure that each student is able to learn in accordance with their particular ability.

Moreover, Lisenbee and Ford (2018) indicated that both digital and traditional storytelling granted students the opportunity for collaboration, problem-solving, critical thinking, and creativity skills practiced in the 21st century. Traditional and modern storytelling is all about social engagement. Students can relate stories to their personal experiences and make associations with academic content through the strong social connections created through storytelling. For instance, from the books *The*

Very Hungry Caterpillar, The Lion & The Mouse, and *The Little Red Hen*, children will read and learn about a butterfly's life-cycle, the importance of kindness, and the concept of co-operation, respectively.

Studies have shown, to a greater or lesser degree, that technology has positive effects on learning and development (Hsin et al., 2014). The researchers (Hsin et al., 2014) concluded that even though the paradigm of new digital literacy included both consumption and creation of media and content through technology, children as the creators of their own content and the content of others has yet to be investigated.

3.3.1.1 Use of Technology to Develop Language and Literacy Skills

Children are almost always fascinated by new toys and technologies, which brings forth wonderful opportunities. Modern technologies can provide valuable creative and interactive learning opportunities for children (Gillen et al., 2018).

Technology is employed in early childhood education, despite the negative speculations and scepticism about its effective and safe use (Ardina, Sinthia and Suprapti, 2019). Its most successful utilisation has been in the learning of language. According to the study conducted by Hall, Flewitt and Wyse (2020), a technology-focused intervention can alleviate the scepticism that teachers generally have towards the relevance of digital media for early childhood education. The research shows clear evidence that with proper time and space to reflect on their experience of learning, teachers could change their views about digital media, which subsequently enables them to develop pedagogical approaches and activities that ensure technology integrated learning. This conclusion highlights the correlation between educators' opinions and the results of digital learning. Historically, the focus of digitally infused learning in the early years has been computers. Due to the ever-changing nature of technology and the greater exposure of the children in the technological sphere, classrooms have integrated learning with interactive whiteboards and tablets (Jack and Higgins, 2019). In addition, technologies and devices tailored specifically to early education are introduced into the classrooms. Devices such as interactive whiteboards, cameras, recording devices, audio players, programmable toys, remote control toys, role play devices, visualizers, and walkie-talkies are utilised across different schools in the developed nations to support the operational, content-based, and positive learning amongst the children.

Trültzsch-Wijnen (2019) pointed out that the different countries in Europe have diverse stances on digital integration and digital literacy. For example, countries like Germany generally have a positive approach towards integration of digital platforms in educational settings, whereas countries such as Austria and Iceland have not applied digital media in all of their learning disciplines, and the focus of digital media has remained on ICT skills development, sometimes extending to robotics and animation. The concentration of technology use in educational settings has been in Germany, the UK, and the US, where there is a more positive approach taken by teachers to incorporate these elements into learning. In doing so, teachers can employ the different platforms, devices, dedicated technologies, and applications to help students learn language, reading, writing, and multimodal teaching in innovative ways, thereby better engaging the students, and equipping them more effectively with knowledge and technology skills (Aldhafeeri, Palaiologou and Folorunsho 2016).

The manner in which children perceive reading and learning through text differs in the way it is presented in the classroom. Children find printed text to be more serious and feel it requires more concentration and effort. Conversely, when they are presented text in a digital or interactive manner, they identify it more as play than real learning (Kucirkova, 2019a; 2019b). Burnett's (2010) review of research related to digital literacy in early childhood education settings revealed that the use of digital technologies varied in its impact. The use of digital text promotes an interactive environment supported by technology. Absurdly, printed text and static images are often used in lessons to support the understanding of technology (Burnett, 2010). In such approaches, which are text focused, rather than focused on visual literacy and meaning from context, visual cues and symbols are short-sighted. They limit the understanding of the meaning-making process for the young learner, including the transference of skills, competencies, and meaning-making across domains (Burnett, 2010). According to Kucirkova et al. (2017) the rate of interaction increases when children use the iPad to read books. The interaction element between the learner and an animated book on a device adds a new dimension to student learning (Ahmed and Nasser, 2015).

The implementation of digital and screen technologies in an early childhood educational environment may significantly increase the variety of exercises available to students. Educational technology can be used to support the content of subject textbooks, or for further practice, presenting the material in a modernised manner targeting millennial students (Ahmed and Nasser, 2015). Zhetpisbayeva and Shelestova (2017) investigated how primary schools utilise technology to improve educational outcomes and the underlying principles of such improvements. Several effective principles were identified for students learning a foreign language. In fact, the researchers determined that interactive-based approaches for foreign language instruction can be effective when implemented properly (Zhetpisbayeva and Shelestova, 2017). Promoting simultaneous activities and interactions between

students can be an effectual use of digital technologies in an early childhood educational environment when clearly-defined roles are established. The researchers also concluded that in an early childhood education setting, students' levels of attention and motivation directly increase upon introducing digital technologies that implement a shift from the teachers' conventional role (Zhetpisbayeva and Shelestova, 2017). These new innovative changes in the classroom appeal to students who want to move past the traditional teaching methods they are used to (Ahmed and Nasser, 2015).

ICT is an effective tool that could facilitate the improvement of children's English as a Foreign Language (EFL) skills by teachers, which can aid in building their various literacy and language abilities, such as letter and sound correspondence (Al-Awidi and Ismail, 2014), listening, speaking, vocabulary, reading, and writing. The learning of language and literacy for early childhood education is conducted through many media. Cameras are used for collaborative home/school projects, where the teachers and parents provide support for the development of a project for their children in order to ensure that the technology is being used safely (Gillen et al., 2018). According to Jack and Higgins (2019), the use of iPads can support literacy and learning language in a number of ways, including: YouTube for songs and other stimulus, internet searching to support their learning, work on open-ended language activities, listening through recorders to improve their sense of sound and diction, toys with button press to stimulate language development, recording messages using microphones, playing games, and reading stories and listening to songs. Comparably, Nikolopoulou et al. (2019) clarified that studies have clearly demonstrated that computer technology, internet sites for social networking, online video and audio tools such as YouTube, Skype, and MP3 players, and smartphone or tablet apps also have significant impact on learning English as a foreign language. This was proved in a study of pre-school Spanish children conducted by Cerezo et al. (2019), in which the teachers used a mobile-based holographic application to help the children with their pronunciation of basic English words. The results verified that doing so prompted a significant improvement in the level of confidence and success of the students. Additionally, another study by Cavus and Ibrahimi (2017) found that a mobile application for children's stories can be considered an educational tool for teaching English as a second language, as it enhances the listening, vocabulary, comprehension and pronunciation skills of the students.

Aksoy and Dimililer (2017) explored teachers' opinions about using technology in language learning, and reported that learning a foreign language through technology maintains and encourages both teachers and children's attention and motivation in preschool education. The use of mobile technology enabled children's education and language acquisition lessons to become more effective in overcoming complex, practical problem-solving tasks. Additionally, a review by Hwang and Fu

(2019) indicated that mobile technology's educational value in language acquisition has been recognized and welcomed by both schools and parents.

Burnett et al. (2017) highlighted that arguably, tablets (which includes the iPad) are currently the most prevalent electronic devices used in classrooms, indicating teachers' preference. They have attracted the interest of literacy teachers and scholars who sense the potential of introducing new kinds of activities into the classroom – strategies that could be more in accordance with the literacy practices of daily life than any that are typically observed in classrooms. Neumann (2018) agrees with Burnett et al., (2017), stating that tablets are a potentially positive resource for teaching literacy because children's interactions with apps enable them to form meaning, communicate through different digital representations (e.g. icons, text, images, audio), and create digital products. Moreover, Neumann (2018) believes these new digital tools (such as the iPad) increase the level of motivation in children in literacy learning. Kontovourki et al. (2017) have also found that the use of iPads provides incentives for learners of languages to participate in school literacy in various ways other than school norms.

The use of the iPad, or tablet, apps allow young students to learn reading, writing, listening, and speech skills in a single download. For example, the functions of tablet applications enable young people to text and write, record audio or video, attach images, and/or insert symbols or stamps. Multimedia authoring and storytelling applications (e.g. Storywheel or Puppet Pals) have been employed to authenticate children's learning experiences. This approach facilitates effective learning for students, wherein young students can express themselves and associate their learning with the real world (Lu et al., 2017).

The availability of technology and the specific requirements of the children are factors that could necessitate diverse approaches. According to Maureen, Meij and Jong (2018), digital literacy, and developing the knowledge and ability to use different technologies and digital platforms safely and in a controlled environment, are necessary for the students in the early years of their education. The fear of technology that often makes teachers and parents pessimistic about its effective usage in education can be managed through this approach. Making use of technological devices and software would develop the children's ability to operate different digital devices. According to the research, one of the most effective methods is digital storytelling activities. The children that were given storytelling activities, both digital and otherwise, showed significant improvement in their digital literacy skills.

Burnett (2017) examined the effect of introducing iPads into classrooms in primary schools, and specifically attempted to better ascertain any 'fluid materiality' changes due to their implementation

in such a setting. The findings indicate that iPad usage can increase fluid materiality within the classroom. In this context, fluid materiality refers to the adaptability of an educational tool or program to meet the needs of the student whilst improving learning outcomes. Although Burnett (2017) established that integrating iPads into the classroom increases fluid materiality, this does not necessarily translate into improved educational outcomes for the students, as increased fluid materiality simply means that there are more opportunities for students to receive a wider and more adaptive variety of content. Therefore, Burnett (2017) provides strong grounds for classrooms to utilise iPads to provide a greater accessibility and range of material to students, thereby facilitating the presentation of optimum information.

Children are inherently motivated to explore and have experiences in new environments. Although education today is purported to be learner-centred, it continues to focus on content delivery by the teacher, rather than allowing the students' creativity to guide the exploration of the lessons' content. These are major differences in approach. In order to fully realize the value of new technology and educational tools, new approaches to what constitutes a classroom will also be needed. Teachers require support and help in building confidence in their ability to effectively integrate technology into their classroom practices and in selecting appropriate applications to meet their teaching and subject content purposes (Neumann, Merchant and Burnett, 2018).

In the early education years, most learning is play-based, therefore it is essential to analyse the impact that digital devices have on their level of engagement and creativity. According to Arnott, Grogan and Duncan (2016), children between the ages of three and five have a significantly higher probability of demonstrating their creative thinking when they are using interactive digital technologies such as iPads. This implicates that when given the proper channel, the early years children are likely to be more engaged and interactive in their learning than is suggested by the negative body of literature. As gadgets like iPads provide them with better options and interactive experiences, learning how to use them independently can help students become more adept at developing their creative skills. However, appropriate apps are required. Marsh et al.'s (2018) research shows that when children, use age-inappropriate apps, it can somewhat inhibit their creativity and play. Play is an essential component of early childhood education and thus, the impact of this is undeniable (Oliemat, Ihmeideh and Alkhawaldeh, 2018).

Kervin (2016) echoes the thoughts of much past and current research which asserts that the greater exposure to technologies and digital media calls for greater teacher interaction with technology, as it can provide them with new opportunities to teach and transform the literacy and language for the early years' education and increase participation from children. Billington (2016) emphasises that technology in early childhood education is not a replacement for adult interaction, and teachers should

utilise the platforms available as tools to facilitate enhanced learning. The research shows that a tool called Helping Early Language and Literacy Outcomes (HELLO), has been extensively used by teachers to improve the language learning aspects. From another perspective, Snell, Hindman and Wasik (2018) put forward another technology known as Tech PD which is focused on both the teachers and students to improve the development of the language and literacy. The research provides evidence that with Tech PD, teachers were better attuned to language and literacy training through technology and their impact and contribution can be compared to their in-person equivalent.

Elyas and Al-Bogami (2019) examined this area in the context of Saudi Arabia, and maintained that iPad usage is effective in enhancing young learners' English as a Foreign Language (EFL) competency. The study emphatically established that the level of student engagement and scores are likely to be significantly higher in students using iPads versus students' learning via conventional methods. The teachers use features like highlighting, pop-up meanings, and spelling formation from the iPads in order to facilitate learning. The problem that the authors highlight is the possibility of distraction and unfamiliarity, with the tools being detrimental to the process. This indicates that a formal integration of technology for reading, writing, vocabulary building and creativity is needed across disciplines. Furthermore, the policy makers and governments must consider the empirical evidence presented in this research genre, as governmental approval and integration to curriculum-based practice may remove the obstacles that the students face.

3.3.1.1.1 Reading

A study carried out by Nikolopoulou et al. (2019) determined that both teachers and students involved in learning a foreign language are highly in favour of the employment of ICT in language learning. The participants showed an almost unanimous agreement that they are likely to use computers to learn language as they can extend the vocabulary of the children, motivate the children to read more, and influence them to even like reading. The positive approach of the students, as well as the teachers, are indicative of a successful integration where the students experienced a pleasant learning experience in foreign language. Teachers in the early education settings might use different technologies to improve children's engagement with reading. As the early childhood cohort is mostly comprised of children in the early stages of reading, it is necessary that they learn through play. According to Kucirkova (2019b), the use of e-books, story apps, picture book apps, and interactive stories are among the most preferred methods through which teachers foster the interest of early years students in learning and reading. These approaches are preferred for their play-based environment and due to their openness to creativity.

Flewitt, Messer and Kucirkova (2015) noted how, oftentimes, games are used successfully to improve the vocabulary or phonics skills of learners. However, they position children as recipients of strictly defined literacy knowledge rather than as imaginative creators of original content, and this structured approach soon becomes boring to some children. The most successful use of these restricted learning applications came in their study when schools used them creatively to provide alternative ways for children to become proficient in specific skills through practice, such as letter recognition and spelling processes. In complete contrast, 'open content' applications, where users could personalise interactions, engaged children in learning tasks much more profoundly and innovatively. For example, when using the Our Story app, the children collaboratively generated their own stories, initially by choosing a series of photographs they or their teacher had taken, and then improved on this by adding voice recordings and/or typing text (p. 297) which is also an example of multimodal learning.

There are two main approaches to teaching early years children, the first one is play-based learning, and the other is the pedagogical approach, the latter of which is more structured and curriculum-based (Christensen, 2017). Both of these approaches are equally practised and accepted, and there is also a growing opinion that play-based learning can lead to the development of a distinct pedagogical culture for learning literacy. In this regard, Arnott and Duncan (2019) provided evidence that suggests that when teachers use play-based learning via iPads and other touch devices in the early year educational system, they aid in the growth of creativity. This includes problem-solving and children reaching a greater understanding of the resources given to them and the platform that they used. The situation is completely different in developing nations due to the differences in internet availability, availability of computers and tablets, policies regarding integration of digital literacy in childhood education, and the readiness of the teachers and the headmasters of schools. According to Ardina, Sinthia and Suprapti (2019), in countries such as Indonesia, which was the location of their study, teachers are willing and interested to integrate digital platforms into the early childhood language learning; however, their current practices revolve around print literacy including story books, posters, letters or word cards, and puppets. Digital storytelling facilitates language learning and the development of reading abilities. Whilst some schools have introduced it, it remains uncommon and unique to the top schools.

The optimum approach to language learning is strong communication and collaboration amongst students and teachers. Kontovourki and Tafa (2019) provide evidence of effective language learning through verbal play, conflicts, and agreements and disagreements among children, and the collaboration and communication was established in schools in their project through digital platforms. Teachers also used computer games to build the reading capacity of the children. Educational

computer games have been utilised in early childhood pedagogy, but the purpose of computer games was for learning, and the teachers also actively participated, which enhanced the children's learning as they received more individual care.

Kucirkova (2019a) proposed a parent-child reading technique using digital media, which forms the basis of collaborative learning using standardised material and curriculum. Oakley (2019) shifts focus to the inclusive digital literacy practice of teachers. The idea of language learning is not limited to English language classrooms but also to other diverse languages. Inclusive practices in classrooms indicate that children will be more open and willing to learn a new language, and understand other cultures and their practices, and in this regard, the use of iPads and other story telling digital devices are particularly beneficial. Thus, the author argues that the use of mobile technology like iPads is found to be the most effective, as it can move beyond the barriers of time, space, and pedagogical approaches. There is a great opportunity for future research here, as there is a significant gap in the existing literature in this area.

The effect of creating and using an interactive e-book to improve the EFL skills needed for kindergarten children in Egyptian language schools was investigated by Hamadtoh and Gohar (2017). The study targeted the early language skills that children are required to master. Their findings showed that their control peers were outperformed by the experimental group children in terms of listening and phonological awareness, but that there were no differences in vocabulary between the groups. Likewise, AlNatour and Hijazi (2018) identified that in Jordan, the use of console games has had an influence on teaching English vocabulary to children in kindergartens who were studying English as a foreign language (EFL).

All of this signifies the importance of the superior content and interactive features of digital books for the children's learning process. The interactive features which digital books can offer children which a print book cannot, would ideally include vocalized narrations, sound effects, animated characters, and music. Digital children's books and literacy-oriented applications will enrich the concept of reading for fun, and thus, the learning of children. Digital books offering high quality text stories and relevant interactive and multimedia features will inspire children to read and enjoy stories (Gillen et al., 2018).

3.3.1.1.2 Writing

Increasingly, teachers are incorporating digital, primarily screen-based technologies in order to teach and improve the writing for the language learners of the early years.

The study conducted by Christensen (2017) illuminated the most effective methods of integrating technology in early childhood pedagogy for the development of writing among children. The use of computers and iPad Story Writing applications returned mixed results. Evidence shows that the stories that children wrote improved with the aid of technologies like computer and iPads, but they were not capable of composing stories independently. This indicates that technological platforms for writing should not be introduced until children's phonetic word building skills have been developed.

According to Kucirkova et al. (2019), writing as a discipline and practice has been overlooked in the research that focuses on digital literacy in childhood education. It is both a significant part of creating meaning, and an important means of enhancing children's creativity. Research carried out by Dunn and Sweeny (2018) showed that the usage of iPads in different stages of writing, using specific applications for planning, sound recordings, and visuals, sparked creativity amongst the children. There is also a growing debate about the applicability of the student's ability when equipment such as iPads, digital cameras, typewriters, computers, drawing tools, and voice-recorders are at their disposal, and they have resources available to represent their meaning through different methods. The interactive nature of the touch devices and the visual elements that are present in them are used by teachers to draw the attention of the students to different words, letters, and their meanings.

Furthermore, Neumann's (2018) study found the children who engaged in dragging letters, matching, and tracing app games have indicated positive student attainment. Children showed enjoyment in using tablet digital devices by interacting with the letters and games in a multisensory manner. This is further evidence of the positive impact of children's independent use of iPads as a tool for knowledge building.

3.3.1.1.3 Multimodal Meaning Making

Proponents of multimodality recognise that children are naturally involved in emerging technological innovations (Flewitt et al., 2015). There is a smooth development between their digital and non-digital lifestyle choices, covering the linguistic, visual, and auditory ranges. Proponents of multimodality recognise new technologies as part of daily interactions that influence how learners see, perceive, and make sense of their environment, and thus re-form their perception of themselves. Arnott and Yelland (2018) have explained that children need space, confidence, and protection to make sense of things that are socially and culturally important; essentially, what things mean to them as they journey through their lifeworlds. Likewise, teachers need to find ways to include resources to promote enquiry and discovery lines for children in relation to their digital worlds.

In the study conducted by Lu et al. (2017), the teachers indicated that iPads provided more time for each child to focus on individual assessments or plan learning materials, as the iPads functioned as an additional teaching assistant to give guidance to their students. Furthermore, one instructor also stated that the progress monitoring program on some of the apps allowed teachers to track the individual performance of each pupil. The findings from the study suggest that teachers in early childhood use the innovative capabilities of tablet devices to build suitable learning environments. For example, teachers may incorporate iPads into different project-based learning experiences (such as making a multimedia film or e-book about ocean animals and communicating with others) to inspire young students to come forward with their ideas and promote their participation.

According to a study conducted by Neumann (2018), children are using touch screen tablets due to their multimodal and stimulating features, and also its touch-based interactive interface that improves engagement of children with their educational activities. The study shows that students develop the ability to make multimodal meaning through the use of screen-based digital platforms, specifically in learning letter name, sound knowledge, print concepts, and name writing skills amongst the early year children. The use of tablets for multimodal meaning making can be effective when the teachers use diverse mediums such as video platforms like YouTube, hyperlinks, wikis, blogs, and performances on stage. By exploring the different delivery methods for a single exercise, the students are able to learn diverse aspects of their curriculum. Magnusson and Godhe (2019) determined that children using multimodal methods while learning a poem gave them an enhanced understanding of vocabulary, pronunciation, spelling, sounds, and meaning making. This provided them with a complete learning experience where they interacted with auditory and visual stimulation that improved their multimodal learning. Smartphones have proven to be equally as effective, and children find them easy to operate as they are lightweight.

As per Miller and Rowe (2019), a multilingual classroom in a cross-cultural setting can be initiated through the use of digital cameras and touchscreen tablets. Children are more engaged with open-ended apps that afford them the opportunity to create their own ideas and content. Christ et al. (2019) pointed out that app books are becoming more prevalent in classroom settings due to the multimodal meaning-making interface. Whilst there have been many questions about the effective use of this technology, and the extent to which children are capable of making meaning out of these interfaces, studies show that the use of app books for storytelling, vocabulary building, phonetic understanding, and ecological understanding has garnered positive results among children (Yelland, 2018). Similarly, Gillen et al. (2018) concluded that the utilisation of open-ended apps facilitates children to independently create multimedia stories, which can subsequently encourage and promote communication between parents and children, increase children's levels of trust, and strengthen and

develop their literacy skills. It has been shown that digital gaming supports learning in many different ways. Thus, using keyboards, speech recognition software, sound recordings and video recordings, can enable students from bilingual backgrounds to become more engaged.

Scott and Marsh (2018) put forward the view that multimodality aids researchers to better comprehend how children interact through various delivery avenues; one of which is digital technology. In multimodal meaning-making, articulating film scenes in drawing forms, using cameras to make their own films, using slide shows to engage them in visual learning, and recording voice and songs as they please enables them to use their creativity to express themselves. There are also suggestions that learning words and technical terms might limit the ability of children to express themselves. As per Arnott and Yelland (2020), multimodal lifeworld learning includes approaches that support children's learning of their identity, learning ecologies, and making meanings of self. The emerging methods of multimodal learning have the ability to transform the pedagogical world. Teachers, with the use of multimodal meaning- making activities, can broaden the horizon of their students' understanding and interaction. They are rethinking play and including technologies in a play-based curriculum so that children are able to respond to diverse media and learn different sensory aspects of language learning. A characteristic of the multimodal approach to pedagogy is that children are much more influenced by and accustomed with the experiences that they have and the behaviours that they observe in their homes (Stagg Peterson, Rajendram and Eisazadeh 2019). From the beginning of their childhood, many comprehend the importance of a smartphone; thus, the application of choice of media could be one of the best methods of engaging a child in multimodal meaning-making.

3.3.1.2 Pedagogical Strategies

The key to integrating technology in classrooms is the degree of preparation of the teachers. Teachers must be trained effectively to prepare them to be able to employ digital tools meaningfully in their lessons. Successful training for teachers would be one that stimulates teachers to transform their pedagogies to adopt technology into their teaching practices. Teachers' choices are affected by their attitudes and beliefs towards technology, their competence in using the devices, and their pedagogical and content knowledge.

It is widely accepted that teachers who recognise the benefits of technology to educational processes will find it more straightforward to integrate it into their classrooms. Aksoy and Dimililer (2017) are in accordance with this, stating that the teachers' beliefs towards pedagogical reasoning limits their efforts to adopt technology. Moreover, they added that unless teachers believe in the significance of

the new technologies, they will likely be unwilling to adopt them into their practices. Likewise, Elyas and Al-Bogami (2019) found that it is crucial for teachers to recognise the value of using digital technology and the advantages it could offer to their classrooms prior to integrating it. Additionally, they found that teachers need to have technological pedagogical knowledge to help them cope with issues that may arise in their classrooms.

Geer et al. (2017) explored the potential risks and benefits of using mobile tools in an educational context. The researchers found that the plethora of mobile tools currently available to teachers offers numerous affordances that improve student motivation and autonomy within classrooms. The level of motivation is higher due to the greater range of tasks and their degree of enjoyment, and the active engagement in class. Similarly, independence is increased because the student has the opportunity to guide many of the activities and tasks available on educational apps. However, the researchers found that simply incorporating such technologies into existing pedagogies is often ineffective. In fact, without a change in pedagogy, and more specifically, adjusting existing pedagogical approaches to better reflect the technologies being implemented, many of the potential benefits of utilising mobile tools will not be achieved.

Since the advent of 21st century, the advancement of technology has made it almost mandatory that all sectors, including education, adopt methods and practices that work in conjunction with technological equipment. Earlier practice included conventional methods of reading from books, writing on paper, solving problems, learning through problem-solving, and creating collages and picture books by hand to ensure a rich learning experience for the students. As technology progresses, teachers started to adopt strategies to incorporate the changes in the pedagogical approach, which entailed the inclusion of recorders, camera, projectors, visual and auditory storytellers, iPads, smartphones, and computers in different disciplines (Undheim and Jernes, 2020). There are also strategies to combine two or more technologies in order to ensure enhanced learning (Hembre and Warth, 2020).

The implementation of digital technologies in an early childhood educational environment may also allow teachers to adapt and apply their own preferred teaching methods to more situations that arise within the classroom setting. The increased interactivity generated by digital technologies provides numerous opportunities to improve instruction and teaching. Daniels et al. (2019) highlighted that there is minimal professional development in this area, therefore, in designing classroom activities and tasks, teachers may be required to call upon their personal experiences and knowledge of digital media. However, yet again, there is ambiguity. It is certainly inappropriate to assume that all 21st century teachers will have independent rich experience of digital media that they can bring to the

classroom. Hatzigianni and Kalaitzidis (2018) agree, explaining that while early childhood teachers may have greater confidence in their personal use of digital technologies than previous generations of teachers, they may have less confidence in their use in early years, as they will not have experience of it at that age themselves.

Teachers need to be professionally trained to be prepared to integrate technology into their classrooms. Kucirkova (2018) suggests that because programmed personalised learning occurs when the learners are automatically provided with personalised content, with little agency, and the learners are given choice and participatory personalised learning in which they can take part in the design of their own needs and preferences, the teachers need to plan their daily classroom activities with consideration of the diverse different technologies they have access to, whilst also ensuring that their choices support the students' specific skills.

Burnett et al. (2017) provided the following recommendations for teachers when integrating iPads or other touchscreen devices into their lessons. They suggested that teachers take some time during lessons to observe the manner in which children engage themselves with the given device. They should ask themselves questions such as: *What do they notice? What do they know?, What can they already do?,* and *What matters to them?* Teachers need to consider how their students can explore topics further using tablets and their applications. Teachers are advised to plan activities that encourage children to switch between applications, as well as work on printed media rather than only digital ones as they work on their learning projects (p.242). Technology integration may also increase activity and practices within the classroom, further improving engagement and motivation. Outcomes of the research conducted by Zhetpisbayeva and Shelestova (2017) showed that both students and teachers reported higher levels of motivation and interest in lessons with the integration of technology.

Further, Geer et al. (2017) explored the effects of the integration of iPad technology across four schools, including examining the impact on pedagogy, and the ways in which pedagogy interacted with the effects of the integration of such technologies into the school programs. The researchers utilised multiple data collection techniques to determine the impact of the implementation of digital and screen technologies in an early childhood educational environment, with focus on pedagogy. The findings suggest that simply integrating the new technologies impacted the teachers' pedagogy for some of the classrooms. Moreover, it was found that the higher levels of pedagogical changes in some classrooms were due to increased collaboration between teachers and administrators. Furthermore, these pedagogical adjustments aided in enhancing communication and encouraged students to become more self-reliant. This strongly suggests that pedagogical changes have a significant impact

on both the educational outcomes of students and the teaching aspects that may further affect such outcomes. Geer et al. (2017) also found that adjusting pedagogies was mostly effective on the school-wide level. In other words, when a deliberate effort was made to adjust pedagogy to reflect the added technologies, such pedagogies were better adjusted and thus yielded greater outcomes for students.

There is a school of thought that children born in the 21st century will automatically be technologically proficient. Kucircova (2018) puts forward a pedagogical strategy that instead, they learn to use it during their early childhood years. This calls for a standardised system that would ensure a safe and secure environment for learning. The use of technology for education has become all the more essential due to the growing importance of collaborative and community-based learning. The integration of technology in early childhood education needs much consideration and these considerations can be expressed through the three "C"s of use: Context, Content, and Individual Child. The last aspect, individual child, leads on to another set of "C"s which are: Critical thinking, Creative innovation, Collaboration, Communication and Content. This provides a powerful framework on which the pedagogy of digital literacy can be constructed and individual learning can be supported. This strategy, in diverse permutations, is one of the most frequently employed by teachers (Livingstone et al., 2019).

In Flewitt et al.'s (2015) study, the teachers who were less confident in using technology initially avoided the use of iPads in their lessons, however, over the course of the study, they were drawn towards its integration, largely due to their students' enthusiasm. The researchers acknowledged that the teachers were in 'awe' at the manner in which their students were engaged with the iPad's activities, and how it motivated them to learn (p. 297). They also noted that children who usually have short attention spans were able to focus on the iPad activities for extended periods of time. The inherent motivation provided by digital technologies helps to create success, a finding which parallels the established understanding of success factors in language learning (Marsh et al., 2019).

An identified problem with the development of technology-related skills and literacy is the fact that it generally occurs outside the classroom (Burnett and Merchant, 2015). The integration of technology in the early learning classroom has many challenges, not the least of which is a lack of standards, frameworks, or practice guidance for educators who are faced with discerning the optimum strategies and approaches for their individual classroom environments. Teachers are often expected to autonomously determine how to integrate technology into their classrooms, regardless of their existing teaching plan or the accommodation of learning styles and differing abilities of a class.

While the teachers' use of technology can provide opportunities for immersive and engaging play, the problem is that it needs to be integrated into the existing framework for curriculum and instruction,

rather than the reverse of integrating the curriculum and content into a technology-driven framework for learning (Burnett and Merchant, 2015).

The adoption of iPads (or other digital devices) into the learning process in schools involves a great deal of consideration and dedication from the teachers. This includes not only finding and selecting suitable software, but also developing a local curriculum and pedagogy that will support their creative use (Flewitt et al., 2015). Undeniably, technology is increasingly becoming a fixture of early childhood education, therefore it is essential that teachers are knowledgeable in its use, and can determine how best to apply it to improve student learning and building skillsets for the future (Lu et al., 2017).

Kontovourki et al. (2017) investigated the themes to emerge from the implementation of new technologies in the classrooms of young children. They also found that although digital literacy was becoming an increasingly important aspect, pedagogies sometimes did not update or adapt to the introduction of new technologies in the classroom. This suggests that there may be additional opportunities for researchers and educators to consider revising pedagogies to better fit the new and increased capabilities and capacities offered by digital and screen technologies. Moreover, Kontovourki et al. (2017) argue that:

> When locating this definition of literacy in particular contexts, literacy learning was found to occur on a micro-level in instances and studies across three thematic areas where children's (and teachers') competences, interests, and identities are foregrounded. For instance, in studies of pedagogical practices, a micro-level context is recognised in researchers' assertions that digital literacy opens up spaces for children's curiosity, problem-solving, exploration, autonomy, and print and non-print skill acquisition, while it also expands their potential for meaning-making by extending their semiotic repertoires. Similarly, research on teachers has foregrounded how particular programs increase teachers' confidence and digital skills through continual support and meaningful practice, as means for changing their attitudes towards the integration of digital technologies in childhood curricula.
>
> (Kontovourki et al., 2017, p. 55)

These outcomes imply that enhanced integration between the diverse elements of the school system may be necessary for the adoption of new technologies in the classrooms. Furthermore, another key element is that pedagogies are framed and adjusted to the increased capacities and integration.

Geer et al.'s (2017) study provides evidence that teachers who adjust their pedagogies may be more successful at implementing technologies such as iPads into their educational programs. Moreover,

the features and capabilities offered by devices such as the iPad and the means by which instructors implement such devices in the classroom have a significant impact on how the students utilise the technologies in their pursuit of achieving educational outcomes. Communication, pedagogical adjustment, and matching the tasks on the apps to the student learning needs also play important roles in guiding student learning. The researchers found that many of the benefits of the technologies were only offered in the form of opportunities to instructors. In other words, whilst the technologies provided opportunities for increased collaboration, improved communication, and greater levels of independence among students in the classroom, they certainly do not guarantee them, as adjustments in pedagogy are required for efficacy. The implementation of a structured professional learning program is very important to ensure that pedagogical adjustments are made and there is sufficient variance in tasks and activities. Such programs can assist teachers with this.

Similarly, Ahmed and Nasser (2015) advised that teachers should invest in their own professional development to ensure that they are fully capable of employing technology in their lessons in a creative and enriching manner. Fenty and Anderson (2014) suggested that while educators do recognise the educational potential of digital technology, they also face significant challenges due to the lack of access to resources, and a lack of technological pedagogical knowledge. Therefore, they encourage educators to receive targeted professional training to learn how to optimally infuse technology into the classroom.

There are numerous studies that suggest the different pedagogical strategies that teachers can use in early childhood education in order to create balance between play time, screen time and other activities. However, issues arise because the existing literature is not broadly applicable or generalisable due to being conducted in the context of a specific country or having an inadequate sample size (Kontovourki and Tafa, 2019). Despite those limitations, schools in the developed countries have adopted different technologies and platforms in order to ensure a multimodal learning. One of the most modern approaches is the adoption of virtual play in classrooms. This discipline is relatively new and has emerged from a different body of literature that suggest that children are much more engaged in virtual reality than other forms of technology (Lemieux and Rowsell, 2019).

Other pedagogical strategies include storytelling, smartphones, and other devices such as cameras, microphones, and recorders for learning language and literacy. The technological revolution that has occurred means that the pedagogical approaches to integrating technology now are unrecognisable from even two decades previously.

Gillen et al. (2018) established several recommendations for teachers to consider, as follows:

1. Teachers and other adults working with young children should develop opportunities for integrating beneficial digital technology activities into their teaching. This should be guided by sound pedagogical principles, rather than the latest technological innovation. Practitioners should encourage the enthusiasm and critical, reflective attitudes of children towards digital technologies so that they can be creatively, respectfully, and safely utilised.

2. Classrooms and learning spaces should enable children to perform open-ended, inquiry-based investigations which are directly related to their everyday lives. Good pedagogical practices are those that allow children to ask, examine, develop, analyse, evaluate, negotiate, build, play, and turn meanings and identities through and across various media.

3. Schools and early years settings should have straightforward, but fluid, and frequently reviewed policies on the use of digital media to promote children's learning. Additionally, the ways in which children can invoke current skills and knowledge should be regularly assessed. Staff must be appropriately trained, and opportunities should be provided for technical as well as pedagogical-oriented collaborative reflection and support.

4. Education providers and educational institutions need to provide teachers with sufficient initial and in-service training to equip them with research-based knowledge and skills, as well as adequate technological resources.

5. Training that encompasses safety and pedagogical guidance is vital for early childhood education leaders and teachers. Their confidence in the use of technology should also be fostered. Teachers need to understand how to integrate technologies into both indoor and outdoor activities in creative and productive ways.

(Gillen et al., 2018, p. 9)

As Elyas and Al-Bogami (2019) have indicated, when incorporating technologies into their classroom activities, teachers should have a specific pedagogical purpose. This requires teachers to assume a facilitators' role and shed the role of 'knowledge conduct'.

This section has provided an overview of research that has focused on technology integration in early childhood. In the next section, I move on to consider some of the key debates in the field.

3.4 Advantages and Disadvantages of Technology in Education

The use of technology can be very powerful and it is essential to set clear aims to make the most of it. Lewis (1999) advises that there are many benefits to making use of technology. He explains it offers flexible accessibility to learners, whereby they can access their lesson material anytime, anywhere. Students can also benefit from creating their own digital profiles where the software used is responsive to their level of learning, in addition to learning being available on demand, not just at certain class times. Finally, he describes educational technology as being consistent in its quality of presentation, meaning it does not change based on whom the teacher is as, 'The speed and flexibility of technology's response to individual needs, combined with the attractiveness of its presentation, can create a powerful learning environment' (p. 146).

Other points have been expressed about technology use in class. Shaymlee and Phil (2012) point out that the use of visual media in class captures the students' attention, so they keep watching, and it ignites their interest in getting involved in class activities. Technology produces rich visual content that mirrors real-life circumstances, which again captures the students' attention span in listening activities in class. Students do not feel passive in class, but take more part in classes, making it a more lively environment. Technology also helps students to keep in contact with their teachers and peers outside of school (Shyamlee and Phil, 2012; Rideout, 2012). As Rideout suggests, 'students also communicate with their peers a lot through texting, plan events, and generally are more engaged with the world' (Rideout, 2012, p.9). However, teachers have concerns about whether their students will become more dependent on them rather than seek answers to their questions themselves (Kemp et al., 2014a). Shyamlee and Phil (2012) argue that overcoming these effects can be achieved by teachers being aware that technology should be used to support teaching, and not be used as a substitute for themselves as educators in class. They note teachers should use it whenever they find it beneficial to their lessons, making sure they are not fitting it in regardless of its benefits, just because technology in class is 'on trend'.

Some negative issues have arisen too. Some suggest that writing has suffered, whether it concerns using actual paper and pencil or typing. It is suggested that the style of writing itself has changed, with students writing in 'texting' language, instead of grammatically correct full sentences with correct punctuation (Shyamlee and Phil, 2012; Rideout, 2012). A study conducted in 2011 on primary, secondary and university students by Kemp et al. (2014b) proved that texting does in fact affect the use of grammar and punctuation in both adults and children. But the study also notes that that does not necessarily apply to all, as some participants violate grammatical rules to save time and effort or for social linking in texting. As for writing, it has not suffered as much as is generally implied

in the media. Clare Woods et al.'s (2011a) study on texting children between the ages of 9 and 10 years old showed that there was no actual difference in literacy development with those who were not texting. She does clarify that this could be a matter of the limitations faced in relation to the time set to collect the data. In another study conducted by Plester et al. (2008), no significant negative relationship was found between children's textisims (texting language) and their written language competence. Although their first study found that heavy texters scored notably lower in their reasoning measures than those who did not text, in contrast, in a second study it was concluded that 'all associations between text-language measures and school-related literacy measures have been either positive or non-significant, but the significance was in the direction of a positive relationship between texting and school writing outcomes' (Plester et al., 2008, p. 142). Further, a study done on children between the ages of 8 and 12 by Wood et al. (2011b) found that texting may in reality have a 'positive effect on standard spelling ability in a school-age population' (p. 440).

Some 71% of teachers felt that with technology being everywhere, students have lost their attention span in face-to-face interaction (Rideout, 2012). Shyamlee and Phil (2012) agrees that if technology is overused, there will be a loss of teacher-student interaction, which would result in having no eye contact between them. She adds that if technology use is based on always being constantly visual, students will also eventually lose verbal practice. She additionally suggests that reading will soon be affected too. Ernst and Moye (2013) warns this situation may result in social isolation in class. He clarifies that schools do not only teach children academic subjects, but also how to fit in socially within a class and the overall school environment. Thompson (2003, p. 89) suggests a solution by recommending the use of a "pod setting", i.e. a group of students working on a single device together. He promotes the pod setting as a healthy constructivist environment, where the teacher instructs the context and at the same time gives the students the chance to interact together at their own pace and level. Social isolation would be eliminated as the students create their own private environment in which they learn from one another academically and socially.

3.5 Technology in Language Learning

> Technology is an excellent tool that gives students the chance to practise English skills without worrying about the affective aspects or responses of other classmates or even the teacher.
>
> (Li, 2013, p.221)

Technology was first introduced in language classrooms as language laboratories in the 1950s and '60s. These laboratories comprised multiple single booths, enabling the student to practise drills individually, while watching filmstrips and recordings of native speakers in order to copy their pronunciation (Guneyli and Ozgur, 2007; Brown and Brown, 2007). Teachers and schools were keen on making changes in language learning in these laboratories, but there was little evidence that these laboratories did in fact produce any improvement in the learning process (Roby, 2004).

In the 1980s, after the failure of the laboratories, the kinds of technologies used broadened. Computer-assisted language learning (CALL) was introduced. This technology then offered input and output, gave feedback, was interactive and, most importantly, a 'fun' environment to learn in, which is not always computer-related. Audiotapes (which still exist in societies with tight budgets) morphed into CDs, spread and were popular to help in self-study outside of class, helping with listening to lectures and oral native-speaker audio texts. Videos, just like audiotapes, were later phased out and replaced by DVDs as they became more common. They helped students watch documentaries, films and instructions to follow in tasks. Teachers have found videos that include speech captions to be useful; language can be seen and listened to simultaneously. Self-made videos and audios were also used. Students made up their own skits and recorded them. Both CDs and DVDs can be, but are not necessarily, played on computers, unlike audiotapes and videos which will only work on specific players. The overhead projector is still commonly used because of its ease for the teacher to produce her own visuals to use in class by simply printing them out on a printer (Brown and Brown, 2007). As described, not all of the technologies were computer-related. So is the term CALL still viable? Chapelle (2005, p.743) defined the term as describing the broadened range of all language learning activities that are associated with technology, not just computers (Brown and Brown, 2007).

Both Jafarian et al. (2012) and Roschelle et al. (2000) promote CALL as a tool in language learning that helps children interact with their study materials, which mirror authentic environments and can assist in improving their cognitive ability. By using computers, children are indirectly learning technical vocabulary, and at the same time identifying alphabet letters on their keyboards (Al-Awidi and Ismail, 2014). Computers 'help children hear the language, view written language and it also gives them the opportunity to speak the language along with the program' (p. 34). They also catch their attention with active visuals (sounds, music, images) to produce a story that excites children to read what is presented in front of them. An additional advantage is exposure to native speakers' pronunciation that can improve their own (Iacob, 2009). A study conducted in United Arab Emirates elementary schools found a significant difference in achievement between students that used CALL and those that did not. Furthermore, it was found that students with higher computer skills and experience, and those that spent longer on computers, achieved higher benefits in language learning.

Therefore, Almekhlafi (2006) concluded that to reach an effective level of benefitting from CALL, students should be encouraged to increase their technological competencies as well.

Robert and Blake (2008) describe the need for various teaching methods to be blended to accommodate technologies in their theories. Robert and Blake go on to argue there has been a misconception of thinking that there is only one way of integrating technology. Referring back to Prensky (2011), contrastingly, technology has no single method to follow. Teaching with technology simply relies on what kind of technology is used and which teaching method will best complement it (Lacina, 2004). In an article published in the Community College Journal, the director of multicultural studies and ESL professor in the Dodge City Community College in Kansas, Greta Clark, thinks that although technology in class is helpful, 'it's the teachers who blend technology with traditional classroom instruction who should be credited for the students' success' (Community College Journal, 2013). A study published in 2011, by Tara Ingerson (2011) in the United States, highlights the importance of appropriate training regarding the use of technology in order to enhance student attainment.

With the spread of Internet use, there has been a higher dependency on learning that focused on the use of computers. The Internet now offers vast authentic language materials (Robert and Blake, 2008). Chapelle (2010) points out how textbooks are now in CD-ROM format with their own accompanying websites. Course activities, she explains, are all not limited to these sites, but also the use of emails or Skype to communicate between teacher and students. In the past, students were taught to read and write essays in the target language, and now we encourage them to write emails and do online research (Wang, 2005).

Technology and multimedia use is said to be helpful in helping students become accustomed to their target language in a way that resembles real-life situations. When students are faced with traditional and outdated materials and visuals like flashcards and wallcharts, they do not really engage themselves in learning, which results in a loss of interest in paying attention in class. In the Kuwaiti context, it is common practice to use these traditional aids and so students may miss out on opportunities for students to use more modern learning tools.

A study conducted by Kung and Chuo (2002) revealed that students enjoyed using ESL/EFL websites that were recommended to them by their teachers. They found them interesting and saw the Internet as a useful tool in their learning. A curriculum that integrates technology, multimedia and websites has a higher potential to engage students in class than a curriculum that depends on traditional teaching aids (Ripley, 2000). Ripley (2000) encourages teachers to be enthusiastic and directional

with their students, explaining further her point that successful integration does not just rely on using multimedia to engage students' senses, but those that demand interaction and student engagement. She goes on to emphasise that, 'multimedia-based language and reading programs have enormous potential, but it is still the classroom teacher who holds the key that can unlock this potential' (p.9). Teachers should still not rely on one style of teaching or single out one type of technology in class. Also, the teacher has to be aware that not all students learn in the same manner. Lin (2009) describes that technological modality comes in different packages; some are student-centred while others are not, for example. Almekhlafi (2006) found that teachers in schools in the United Arab Emirates had to ensure they met their student differences by teaching using approaches that would satisfy visual, auditory and audio-visual learners simultaneously.

The purpose of the media and technology used in language classes is not only to assist in presenting lessons, but also to encourage students to learn limitlessly. There is no doubt that it does play a major role in second language learning environments (Baig, 2014; Garrett, 2009). Computer technology can help teachers use a vast range of multimedia that will lead their activities being more dynamic, communicative, interactive and, of course, meaningful to their students. With the spread of the Internet, communicating with peers and teachers interactively is always considered fun for students, such as using emails, chat programs, Skype (or any other video calling program) or blogs and podcasts. In this fun stimulating process, students learn both consciously and unconsciously. Their language production increases and their pronunciation improves (in the case of video or voice chats), because they feel encouraged to join their peers socially in using the trending interactive technological platforms available (Golonka et al., 2014; Carey, 2004; Hirata, 2004; Lacina, 2004). Students communicating together also results in sharing and learning cultures. Butler-Pascoe and Wiburg (2003) believe that language reflects the speaker's culture. Conversing language learners will talk about their own culture, which enables students to share information interactively through oral discussion. Technology use in language classrooms help students become more competent speakers because of the rich amount of effective technologies available to support their learning.

As new technologies emerge and become more widely available, instructors need to be aware that they will have to keep altering their methodologies to adapt to what is now available and not be outdated anymore. Teachers choose technology based on what the needs of their class of learners dictate. The more technology is innovative, the more it catches the student's attention and grasps the student's interest to learn. But at the same time, using technology can distract the student away from their learning task or cause some level of irritation with using software or hardware that breaks down (Golonka et al., 2014; Garrett, 2009). As Levy (2009) puts it, 'it is the teacher's or the learner's understanding of what a technology can accomplish that is critical in practice' (p.777).

As explained above, the use of technology is now considered imperative in education. Technology needs to be integrated into teachers' lessons in a manner which engages the students in their own learning processes, and not to be used as a replacement for the teacher's teaching methods. It is crucial for teachers to believe in its effectiveness and to be willing to adapt their teaching pedagogies to adopt technology. In particular, language teachers should be encouraged to embrace the potential of new technologies and use them in their classrooms. The research indicates that language teachers should be encouraged to embrace the potential of using educational technology in language learning in order to succeed in adopting technology and eventually change their pedagogies. However, this is a challenge, as the next section indicates.

3.6 Teachers' Integration of Technology

> Digital tools may reduce teachers' workloads or improve their teaching practice in the long term; but there will inevitably be an initial cost to the teachers as they learn to use those new tools.
>
> (Luckin et al., 2012, p. 56)

There is no standard definition of technology integration. Protheroe (2005) defines the use of technology as supporting newer ways for students to attain knowledge and learn by collaboration with peers. Summak (et al., 2010) suggests that integration is characterized not by the quantity or form of technology used, but by how and why successful instruction is obtained . He further explains that integration occurs when teachers are, "trained in a full range of technology uses and in the determination of their appropriate roles and applications; teachers and students routinely use technology when needed; teachers and students are empowered and supported in carrying out those choices" (p.1726). Fullan and Donnelly (2013) conclude that the use of technology in class should always be engaging to learners and attract their interest and attention. It should also enhance collaboration and participation in class between students and teacher.

Drent and Meeliseen (2008) found that technology is not merely a tool that replaces traditional teaching methods in class but rather a vital instrument to encourage new ways of teaching and learning. The benefits to be gained from using technology in the teaching and learning process depend on various factors, such as cognition, attitudes or the motivation of targeted learners. No single technology is labelled as the 'best' one to use; rather, each device or piece of software has its proven

targeted activity (Luckin et al., 2012). It is crucial that the teachers' styles are adjusted to accommodate the technology (Drent and Meelissen, 2008). Careful planning and targeted training are essential to support the diffusion of technology. Teachers must be trained in how to integrate technology into their everyday teaching appropriately and be aware of how and why they will benefit from utilising technology in their lessons (Korecamp and Croninger, 1996; Hew and Brush, 2007; Muir-Herzig, 2004).

Zhao and Cziko (2001, p. 27) summarise the necessary conditions for teachers to use technology as follows:

1. Teachers must believe that technology can more effectively achieve or maintain a higher-level goal than what has been used.
2. Teachers must believe that using technology will not cause disturbances to other higher-level goals that they evaluate as more important than the one being maintained.
3. Teachers must believe that they have the ability and resources to use technology.

Teacher training needs to cover not only the technical usage of different devices and software, but also the pedagogical concepts to incorporate technology into their everyday teaching (Schaffer and Richardson, 2004; Hew and Brush, 2007; Demetriadis et al., 2003). Those who are not so enthusiastic regard technology as an additional burden of responsibility on their already overloaded work as teachers (MacNeil and Delafield, 1998; Afshari et al., 2009). In addition they may not have the skills, understanding or knowledge about how technology could facilitate their teaching and consequently their students' learning (Gilakjani, 2012). According to Galloway, John and McTaggart (2014), when a proposed technology is easy to use, schools could be very fast adopters. Several teachers are familiar with technology and willing to take advantage of it and support their students . Those teachers believe that the integration of technology will enrich their curriculum and will make an extra effort and have a positive attitude towards implementing technology (Tezci, 2009; Baylor and Ritchie, 2002).

Because of the lack of specific research in the Kuwaiti context I have drawn on a range of different international literature from a number of different sources because I find the issues run in parallel with and are similar in some respects to those in Kuwait. And that also led me to include a high number of dissertations so that I am ensuring I am as aware of existing contexts as I can be, even if they are not published as academic papers.

In a study by BECTA in the UK in 2004 (Jones, 2004), it was found that confident teachers pursue the implementation of technology, while those that lack confidence avoid innovation altogether.

Similarly, Al-Senaidi's et al.'s (2009) study of the barriers teachers faced in the Sultanate of Oman when adopting technology found that the teachers' level of ICT skills determined their level of implementation.

Not all teachers feel the same way about technology. Those who have taught and have long experience of doing so without using technology may feel uncomfortable using it. They may be reluctant to incorporate technology in the classroom for a variety of reasons, including a lack of relevant knowledge or skills, low self-efficacy and existing belief systems. Therefore, they require training on how to integrate technology and how to change their pedagogy to support integration (Sprague, 2004; Hew and Brush, 2007; Afshari et al., 2009), and to understand that they are no longer the only source of information. Baylor and Ritchie (2002) point out that one-off workshops, regardless of how good and rich they are, are not able to achieve a carry-over effect that encourages teachers to implement and proceed with changing the pedagogy they are used to. As mentioned before, teachers who feel they do not have sufficient skills to implement technology competently will not be willing to implement it at all (Baylor and Ritchie, 2002), thus it is vital that innovators listen to what teachers feel (Vanderlinde and Van Braak, 2011). Ertmer et al. (1999) found that teachers see technology in two different lights, either "as an inspiration or an intrusion depending on the meanings and values they assign to technology" (p. 55). Moreover, she points out that teachers' use of technology in classrooms evolves over time while implementing it. She goes on to argue that as they become more competent with the technology they use, teachers become more inspired, making more use of within their lesson plans. This issue is investigated in this study.

3.7 Conclusion

This chapter has provided an overview of technology use in school curricula, particularly in relation to English Language learning. It can be seen that a key aspect of successful technology integration is the role of the teachers themselves. The next two chapters outline the theories that inform my analytical framework, which focus on the role of teachers in ensuring successful use of technology in the curriculum.

Chapter Four

4. Technological Pedagogical and Content Knowledge

4.1 Introduction

In this chapter I introduce and review the theoretical frameworks that informed this study, that is Ertmer's (1999) notion of first and second order barriers to pedagogical change, and the technological pedagogical and content knowledge (TPACK) framework. The TPACK framework is an extension of Shulman's (1986; 1987) concept of pedagogical content knowledge, which identified the knowledge for effective teaching and learning. In order to become a successful teacher, teachers are required to have a mixture of specialised educational related knowledge, such as knowledge of technology (Koehler and Mishra, 2009; Koehler et al., 2013).

4.2 The Framework

TPACK is essentially the foundation for teachers of effective and proficient teaching (Harris et al., 2009, p. 401). Based on the work of Mishra and Koehler (2006), TPACK is a theoretical framework that focuses on how teachers integrate technology into their teaching practice. Mishra and Koehler (2006) suggest a knowledge base that is necessary for teachers to have prior to implementing the use of technology in their lessons. It is the basis of teaching effectively with technology. It requires a comprehensive understanding of relevant concepts and pedagogical techniques, in addition to associated content knowledge. Moreover, Mishra and Koehler (2006) assert that even in circumstances where teachers have existing technology skills, it does not necessarily mean that they are competent in their practical employment of those skills. In other words, having those skills does not mean that they are automatically able to teach them. TPACK is more than just having knowledge about educational technology use; it is also about how to make subjects easier to learn with specific pedagogical practices in order to ultimately improve teachers' practices (Koehler et al., 2013).

Abbitt (2011) maintains that the personal use of technology does not signify the transfer of proper technology integration into teaching. Many academics agree that what this essentially means is that whilst being able to use technology and possessing knowledge about technology is beneficial in terms

of developing new skills, it is not at a sufficiently high level to match the knowledge that teachers require to be able to integrate technology into their teaching practice, and this is the case for any grade or subject (Harris et al., 2009; Brantley-Dias and Ertmer, 2013; Koh and Chai, 2016). Voogt et al. (2013) define TPACK as the knowledge teachers have of how to merge their content knowledge with their pedagogical knowledge whilst using modern technology so as to facilitate subject learning for their students. When pedagogy, technology and content are appropriately combined, only then can teachers successfully achieve technology-enabled learning.

The development of this knowledge is critical for teachers to teach effectively supported by technology. Well-constructed TPACK enables teachers to acquire a more comprehensive understanding of how technology can support students' learning (Tseng, 2016). While technology helps teachers teach their subject content with solid pedagogy, it also demands that they embrace new knowledge as it emerges. Many teachers find learning to develop new pedagogical approaches challenging. Koehler and Mishra (2009) suggest that problems typically arise when teachers have been provided with inadequate training programmes, as this results in teachers feeling unprepared to integrate this new technology into their lessons. An important factor to bear in mind is that many teachers in practice actually earned their degrees at a time when educational technology was not as advanced as it is nowadays. This aspect is not a new concept, as Shulman (1986) has discussed, for teachers' knowledge needs to continuously develop and grow in order to adapt to new practices which present their content in an updated pedagogical form.

Teacher education needs to evolve from the usual focus on content knowledge, and instead determine new ways to present their subjects to their students. Mishra et al. (2011) argue that rapid changes in technology can be a challenge for many teachers to keep up with and familiarise themselves with as, often, as soon as they become comfortable with one particular technological device, a new one emerges. Teachers' readiness to keep updating their knowledge depends on several characteristics, such as age, experience and subject area, as well as their own level of self-esteem. Mishra and Koehler (2006) suggest appropriate targeted training in the use of technology as an educational tool effectively helps teachers to acquire technology skills they did not previously possess. Hence, in terms of integrating technology into their lessons, teachers tend first to become more confident, and second to become capable of more appropriate execution of their strategies (Mishra et al., 2011; Mishra and Koehler, 2006). TPACK development is therefore a crucial approach to follow so as to effectively aid teacher development and education.

Teachers do not always differentiate between the technological functions and educational affordances of technology. They strive to achieve educational knowledge in using technology in a way that is

most beneficial to their subject learning outcomes, and to do so, teachers require targeted professional development and training. Teachers must learn about using technology from a content perspective, which would increase the likelihood of them using it to support their teaching. Conversely, if they were only taught to use technology as a skill, they would face difficulties in integrating it into their practice for educative purposes. The TPACK framework was designed to lead teachers along the technology integration path. Additionally, the framework can be used as a model for required teachers' knowledge for technology integration, or as a model of how technology integration arises (Abbitt, 2011). It may also be used to influence the design of training for pre-service teachers, as well as professional development for in-service teachers (Schmidt et al., 2009).

Moreover, the ability to practice good teaching requires an understanding of how content and pedagogy are related to the use of technology. Every form of technology has its own properties and attributes; therefore, teachers need to understand which technologies are more suitable to use with specific tasks (Hughes, 2005; Koehler et al., 2007; Tseng, 2016). It is important that teachers recognise both what technology can do, and how they can harness it to their advantage in their teaching. The choice of which digital technology to use is not about the device or the software itself, but more about how meaningful and beneficial its application will be. The use of technology is not about the type of technology employed, rather it relates to why and how it will be used to complement learning content (Stoilescu, 2015). A significant point here is that there is not one uniform kind of technology for every teacher to use with every course (Mishra and Koehler, 2006).

As stated by Brantley-Dias and Ertmer (2013), TPACK was first introduced with the aim of being a framework for educators to follow and as a guide to help educate teachers on how to integrate technology in their lessons. Educators should also be aware that constantly trying to keep up to date with technological developments can be overwhelming for teachers experiencing time pressures (Harris and Sass, 2011; Harris et al., 2009), which ultimately adds stress to their lesson preparations. Consequently, this stress discourages teachers from using technology.

In Koh and Chai's (2016) study in Singapore, it was found that teachers learnt from each other in an 'interpersonal frame' (p. 250). This includes social talk between teachers, and requesting or volunteering peer assistance between teachers. This shows that teachers need to learn how to use technology in a social context, it is not solely about technology in education. They asserted that it is necessary for teachers to be prepared to use technology for the benefit of their subjects, and also that it is important to just learn technological skills in general. However, these general skills should also serve teachers' educational purposes (Chai et al., 2011). They also found that teachers' involvement in lesson designs with consideration given to technology integration is an effective passageway for

their TPACK development (Koh and Chai, 2014). Subsequently, this supports teachers in linking together their pedagogical, content and technological knowledge. Likewise, Harris and Hofer (2011) found that curriculum content is the primary factor driving teachers to reconsider their pedagogy.

As I have previously argued, teaching and preparing teachers how to use technology for educational purposes differs from simply learning how to operate a technological device. For instance, it requires more time and skills (Harris et al., 2009). As previously suggested, according to Niess (2011), one of the problems that teachers face is the fact that, in practice, most of today's teachers did not learn or become familiar with their subject's content through the use of presently available digital technologies. Consequently, they lack experience and knowledge of how students can learn such content with the aid of current technology. Teachers are influenced to consider TPACK by their beliefs and attitudes towards technology, pedagogical understanding and the facilitation they have been presented with to use the proposed new technologies (Koh and Chai, 2016; Koehler et al., 2013).

In a study conducted by Agyei and Keengwe (2014), at the University of Cape Coast in Ghana, it was discovered that pre-service teachers who had completed a course on technology integration into lectures and laboratory sessions improved their technology integration competencies, thus making them more efficient in terms of integrating technology into their teaching than those who did not attend such a course. The teachers felt more confident in using technology than they did at the pre-course stage, and they stated that they had broadened their pedagogical approach. So, effective focused teacher training on technology and using TPACK as a framework guide does produce more confident teachers and, in return, more efficient technology integration.

Using technology in teaching is a complex undertaking. Educational trainers must not rely on teachers' knowledge of using a tool, instead they must teach them how to create class activities with that same tool (Angeli and Valanides, 2013). Teachers need to be aware of how applying any technology-related activity into their taught topic could significantly help their students to master it. Research carried out by Al-Awidi and Aldhafeeri (2017) reported that training in Kuwait lacked this concentration. He found that many of his sample group had never had any training that prepared teachers to integrate technology into their class curricula. Successfully teaching and integrating technology into practice is not an easy task to achieve. As Koehler and Mishra (2009) explain, there should be a balance between creating and maintaining the components. Additionally, they noted that teachers were provided with a single approach for all aspects of teaching in professional development courses, which is wholly inadequate as teachers work and learn in different contexts themselves. Ultimately, the bottom line is that there is no single method of learning how to integrate technology. Furthermore, Mishra and Koehler (2006) determined that teachers were asked to apply their own

knowledge and skills in their classrooms without appropriate developmental training, disregarding the fact that knowing 'how to use technology is not the same as knowing how to teach with it' (p. 1033). It should be addressed by treating teaching as an interaction between what teachers know and how they apply their knowledge to the content of their curricula, along with constant professional development courses. These courses are needed to keep teachers continuously updated with the latest digital technologies. Koehler et al. (2007) state that 'de-contextualized, didactic approaches that merely emphasize the acquiring of technology skills are unlikely to succeed, since they do not address difficult but crucial relationships between technology and content, and technology and pedagogy' (p. 744).

In many different studies (e.g. Harris et al., 2009; Koehler and Mishra, 2009; Koehler et al., 2013; Koehler et al., 2007), the TPACK framework has been described as a complex connection between three main intersections, of content knowledge, pedagogical knowledge and technological knowledge, as shown in Figure 2, below:

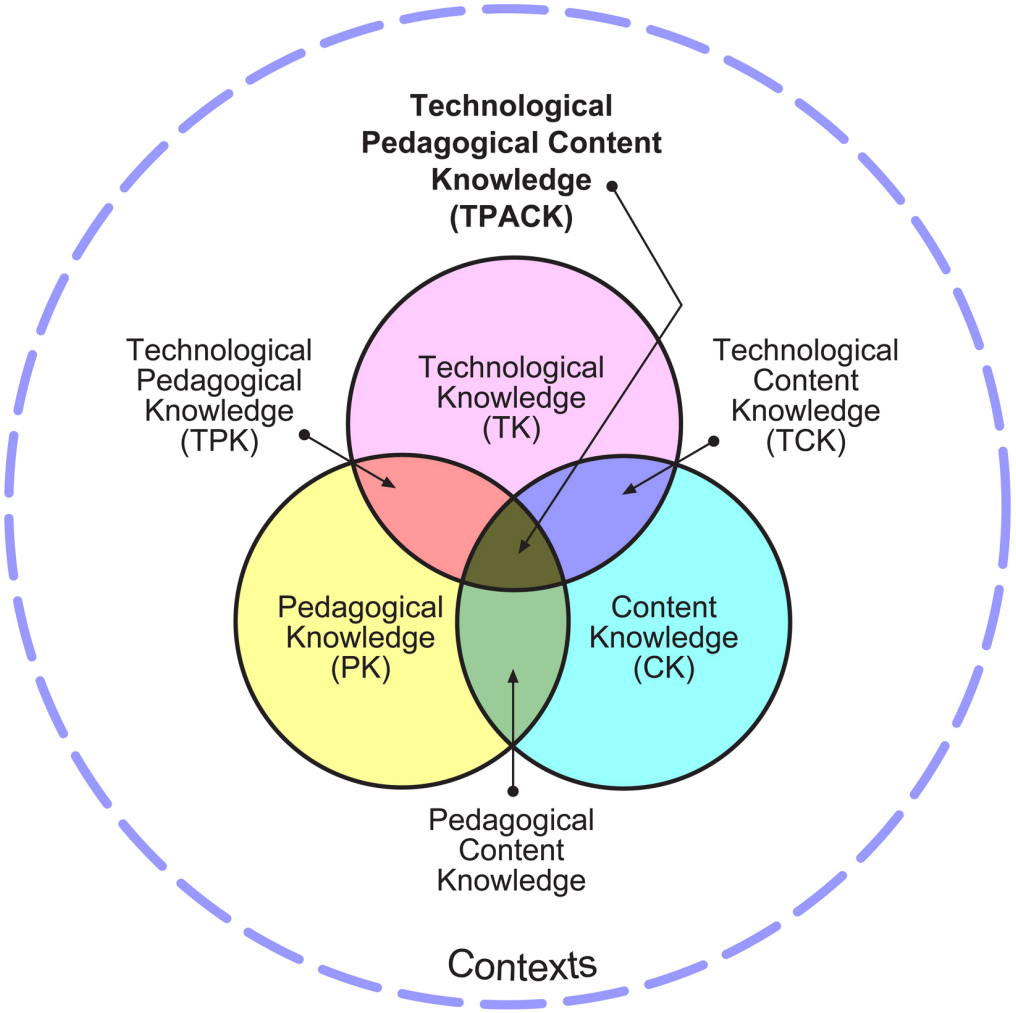


Figure 2: The TPACK framework (Koehler and Mishra, 2009)

Three components overlap to produce technological pedagogical knowledge, technological content knowledge and pedagogical content knowledge. Technological pedagogical content knowledge is achieved at the point where all the components intersect. These components cannot be isolated from each other. Mishra and Koehler (2006) stress that technology integration is realised once all the intersections overlap to produce TPACK knowledge. TPACK emerges when content, pedagogical and technological knowledge interact with each other. Mishra et al. (2011) state that the TPACK framework is set out for all subjects; it is not content-specific, nor does it dictate which exact technology to use or when to use it. As long as there are new educational technologies emerging, there will always be a need for the TPACK framework, both for teachers to follow and for their knowledge to be evaluated. Cox and Graham (2009) believe it is essential for teachers to learn how to use the proposed technology in a broad sense in their classrooms, and then learn how to use more subject specific content technology to best serve their lessons.

I will now give an account of the key sections of the TPACK diagram above.

4.2.1 Content Knowledge

Content knowledge is the knowledge that teachers have about their teaching subjects. Fundamentally, it refers to the subject matter being taught (Harris et al., 2009; Koehler et al., 2007; Schmidt et al., 2009) and, in particular, the depth of teachers' knowledge in their content area. It has also been described as the knowledge teachers have in relation to their specific disciplines' facts and concepts (Hughes, 2005). This is core knowledge for teachers (Koehler and Mishra, 2009; Koehler et al., 2013). Shulman (1986) explains that this knowledge includes their knowledge of concepts and ideas.

4.2.2 Pedagogical Knowledge

Pedagogical knowledge is about the methods that teachers employ to teach. In other words, it is deep knowledge of teaching. It also applies to understanding the ways in which students learn (Koehler and Mishra, 2009; Koehler et al., 2013; Harris et al., 2009; Koehler et al., 2007), which can include learning theories and cognitive development (Hughes, 2005). Harris et al. (2009) explain that this knowledge includes the techniques that teachers choose to use in their classrooms, as well as the knowledge they have about the ways in which students construct knowledge and acquire skills (p. 397).

4.2.3 Technological Knowledge

As held by Koehler and Mishra (2009) and Mishra and Koehler (2006), technological knowledge is in a perpetual state of change. Any definition of technological knowledge is bound to become quickly outdated as technology rapidly changes and advances. Cox and Graham (2009) define this knowledge as 'knowledge of how to use emerging technologies' (p. 63). This continuously evolving knowledge does not just include advanced digital technologies, it can also refer to standard technologies such as the whiteboard (Koehler et al., 2007).

4.2.4 Technological Pedagogical Knowledge

Based on Koehler and Mishra (2009), technological pedagogical knowledge can be defined as knowledge of how teachers' approaches to teaching and students' approaches to learning change when technologies are employed in certain ways. It has been described as the way in which technology influences teachers' teaching styles and the way they use their chosen technology (Abbitt, 2011; Ling Koh et al., 2014). This is particularly important, as most technologies are not actually designed for educational purposes, therefore implementation requires amendments and adjustments to identify optimum educational approaches. Teachers need to look beyond simply utilising the common features of technology and reject their fixedness, and instead think of ways to customise them in a manner that helps to achieve their lessons' purpose. In general, Koehler et al. (2007) believe that teachers are expected to be creative and open to new ideas, therefore they should embrace this challenge. This is in addition to the primary goal of understanding the capabilities of the chosen technology to be used in their teaching processes (p. 743).

Technological pedagogical knowledge can also include knowledge of how to better motivate students and engage them in learning with the use of technology as a teaching aid. Teachers must reject a fixation on how technologies are used, and look beyond their common use for their own pedagogical purposes.

4.2.5 Technological Content Knowledge

Technological content knowledge relates to how content and knowledge have a reciprocal relationship with one another (Koehler et al., 2007; Abbitt, 2011). It is knowledge of how technology and content complement or oppose each other's tasks. A key point is that teachers need to understand which technologies best suit their subjects, and how they will best help them to present or teach their subject content to their students (Harris et al., 2009). Koehler et al. (2007) explain that this primarily

entails the perception of how technology impacts on teachers' practices when developing technological tools for educational purposes, and how subject matter is transformed following the application of this technology. Decisions about determining which type of technology to use can be made most effectively by taking subject content into consideration. However, Koehler and Mishra (2009) note that it is important to appreciate that content can sometimes limit the types of technologies that can be successfully used, therefore it is imperative that teachers have a full and clear understanding of which technologies will most effectively serve their subjects. At the same time, technology use offers varied and newer presentations of subject content. The manner in which educational technologies are employed changes more than the technological tools themselves, depending on the content being taught (Harris et al., 2009).

4.2.6 Pedagogical Content Knowledge

Pedagogical content knowledge is described as the approaches, based on teachers' knowledge, that are utilised to present subject content to their students. The materials teachers have are used as the basis for making decisions about how they will expose their students to the content learned in order to achieve their learning goals (Hughes, 2005). This includes which pedagogical technique to use with a particular type of content, and what makes a content component easy or hard to for students to learn (Koehler et al., 2007).

This knowledge combines how to use both activities and representations of the subject to decrease the degree of difficulty of learning for students. Pedagogical knowledge here is subject-specific rather than general. It is crucial that teachers are fully aware of the strengths of particular class activities and how they will help students to achieve effective learning and knowledge of the presented content (Cox and Graham, 2009).

In the next section I discuss teachers' opinions about technology use, and the barriers they face when integrating technology into their pedagogical practice.

4.3 Teachers' Roles, Perceptions and Barriers to Using Technology

Liu et al. (2004) believe that teachers' attitudes are a significant influence for the successful use of technology in class. Furthermore, Lam and Lawrence (2000) add that teachers' personal beliefs regarding the need for or success of integrating technology into education affect their attitudes towards its actual use in their own classes. Rakes and Casey (2002) conclude that teachers need to be

comfortable with technology in order to see actual achievement in students' attainment. She believes that any concerns have to be dealt with because they can have an effect on teachers' behaviour, so that students' achievements are compromised. She too emphasises that teachers' confidence is essential if they are to succeed.

Some teachers feel hesitant towards using technology, which may as a result lead to a fear of using technology in education (Park and Jeong-Bae, 2009). This is an outcome of their limited experience of integrating technology into their lessons to facilitate their teaching. Instead, these teachers end up using provided technology not for learning, but for communication and class management. Meanwhile those who are confident users do implement it in their classes (Park and Jeong-Bae, 2009; An and Reigeluth, 2011). Redmond, Albion, and Maroulis (2005) also believe that personal interest, confidence and a willingness to try new things are key to promoting the use of technology in class. Teachers need to be convinced to integrate technology. Means (2010) argues that teachers need explanations concerning what the outcomes will be and how technology will enhance learning in their classes when implemented in order for them to feel encouraged to take this new step.

All these issues revolve around present barriers that need to be addressed and overcome in some way to gain the full benefit of educational technological integration (An and Reigeluth, 2011). In 1999, Peggy Ertmer divided these 'struggles' into two barriers. First-order barriers are those related to lack of teachers' resources, lack of technology access and a lack of technical support. Second-order barriers concern teachers' teaching beliefs, training, classroom practices and their level of enthusiasm towards change. Ertmer (1999) and Ertmer et al. (2012) stress that despite the fact that it is unpredictable how many and which barriers teachers will face, facing some of them is guaranteed. Being aware of them in advance helps in developing skills to overcome them.

First-order barriers are more easily overcome. Ertmer (1999) claims that once funds are allocated, these barriers are easier to eliminate. However, overcoming technical problems is hard to achieve. Teachers are willing to use technology when adequate technical support is available (Eristi et al., 2012). Jones (2004), in the BECTA survey, raises the point of a strong link between fear of damaging devices and lack of teacher confidence, in addition to anxieties about the actual breakdown of devices being used during class that would result in class disruption. This opens the door to recruiting new technical staff to be readily available on site to deal with glitches (Eristi et al., 2012; Jones, 2004), which is not easy to achieve. Employing new staff is not part of the educator's job, but the administrators'.

Second-order barriers are more complex to overcome, especially when is it unclear to teachers what is expected to be done either by them or their students. Ertmer believes these fears should be tackled before first-order barriers, because these are the ones that require extensive changes in routines, beliefs and practices (Ertmer, 1999; Ertmer et al., 2012; Jones, 2004). The BECTA survey's findings show that 'technophobic' teachers have a fear of even enrolling for training programmes to tackle their competencies, or lack thereof (Jones, 2004). Therefore, training programmes have to deal with the issue of learning ICT skills jointly with pedagogical training to ensure that teachers attain the necessary skills to integrate technology into their classrooms successfully. Only then will it be clear to educators that teachers, technology and students are a single entity. As Fullan declares, 'It is teachers with technology that will make the difference. Students are third partners. All three are co-essential' (Fullan, 2012, p.72).

Littrell et al. (2005) claim that pre-service teachers are not exposed to how to use technology, but more about what technology is. Likewise, Rehmat and Bailey (2014) explain that the training offered in technology skills classes does not instruct students on how to integrate technology in learning. Instead, she expects such training to focus its attention on providing a blend of knowledge and, most importantly, the skill to use it within the taught curriculum itself. It is important to learn through workshops how to integrate technology in class in order to produce diverse teaching and learning activities (Lei, 2009; Park and Jeong-Bae, 2009). These courses are important to boost teachers' confidence, which might lead to positive outcomes, as well as enabling teachers to gain the skills required to integrate technology correctly in related tasks. Teacher training, readily available technological facilities, teachers' attitudes and prior experience of use all relate to the success of technology integration in class (Park and Jeong-Bae, 2009; Ertmer et al., 2012).

Abbitt's (2011) and Anderson and Maninger's (2007) investigations among pre-service teachers suggest that there is a clear need to include educational technology for them as future guidance, in addition to showing them the skills needed to succeed in integrating technology in their classes. When teachers have a positive attitude towards this new movement, by gaining relevant knowledge and practices, it will result in higher motivation within them, which will encourage them to integrate technology with confidence (Sang et al., 2010; Littrell et al., 2005; Lei, 2009; Cullen and Green, 2011).

An and Reigeluth (2011) explain that when technology integration training teaches skills and knowledge and not how to intertwine technology, pedagogy and content, teachers end up not grasping the proper means to apply the knowledge they have gained. There is a need for teachers to learn how to build technology use in curriculum contexts and construct a learner-centred learning environment

for their subject area in order to find real purpose in integrating technology into their teaching methods. Teachers are mostly constructivists in their philosophy but not in their actual practice (Jones, 2004). In order to help them be actual practising constructivists, there is a demand for hands-on training spread over time, rather than popular crammed information presented in a short training period, an approach that combines teacher needs, active hands-on training and personalised support (An and Reigeluth, 2011; Ertmer, 2012; Jones, 2004). As Ertmer suggests:

> Learning to use new technology tools and taking major steps to change one's classroom practices will be a challenge for most teachers. Yet if teachers are prepared to confront both first- and second-order barriers, success will be more likely.
>
> (Ertmer, 1999, p.59)

For teachers to be able to integrate technology meaningfully, accordingly with Koehler and Mishra (2009) they will need to gain technological pedagogical and content knowledge. These knowledges overlap and they are all essential for successful educational technology adoption. Teachers gain this knowledge through adequate targeted training and educational workshops that aim to change teachers' pedagogies in a manner that will serve their subject content. Each part of TPACK complements and completes the other parts.

4.4 Conclusion

As the literature review reveals, teacher-trainers and educators together have to help in the process of teachers overcoming barriers to accepting change to their pedagogies and get out of their 'comfort zones'. There is also evidence in the literature showing that school administrators have a role to play too in facilitating the path for teachers and helping them overcome barriers they face. The study reported in this thesis explored these issues in relation to primary English language teachers in Kuwait, in the context of a government curriculum initiative which was intended to develop practice in the use of technology in education. Of interest was how the innovations proposed in these changes were adopted by teachers. One of the ways of interrogating this area was to draw on Roger's work on the diffusion of innovation, which is outlined in the next chapter.

Chapter Five

5. Diffusion of Innovations

5.1 Introduction

This chapter describes Roger's diffusion of innovation theory, one of the theoretical models used to analyse the data. The chapter goes on to describe how innovations are part of educational reforms in schools, and what teachers feel about new proposed innovations.

5.2 Diffusion of Innovation Theory

Rogers (2003) divided the diffusion of innovations into "four elements: (1) an innovation itself, (2) how the innovation is communicated through certain channels, (3) through time, (4) among members of a social system" (p. 11). These elements work together to achieve acceptance of the new innovative idea. The innovation is the concept being introduced and how people react to it. Communication is how people share information about the new innovation, the way the idea is diffused from one person to another. The social system is the group of people targeted to use this new innovation. Finally, the concept of time in the diffusion process refers to how long it takes for the group to adopt the innovation, and whether they continue using it once it has been proved successful. Adopting an idea is not the same as diffusing it. Adopting an innovation is done individually, while diffusion refers to how an innovation spreads within a group and how it is used within the targeted social system. Diffusing innovations takes a long time to achieve, most notably in education (Rogers, 1983).

Rogers (1983) further explains that innovation is the idea itself, a new concept devised and presented. However, what is most important here is the manner in which the innovation is presented to people. Potential users must learn about the innovation, and be persuaded of its merits, and why it would be beneficial for them to use it. How people perceive the relative advantage of an innovation is particularly significant. What people consider to be the norm is difficult to change, as people feel more comfortable with what they already know. For this reason, these norms are seen as barriers to change. This is very commonly observed in social systems.

As indicated previously, and as specified by Rogers (1983, 2003), social systems include a mix of people, those who have traditional views and those who have more modern perspectives. The traditionalists are usually elders, he argues, and can be resistant to new ideas and change, as many do not like to step outside of their 'comfort zone'. Modernists, however, are generally younger and more flexible to change, according to Rogers. They welcome new ideas and consequently are more likely to adopt faster. An innovation is spread through communication between individuals; therefore, depending on attitudes as it is spread, we will see varying responses between adoption and rejection. So, in order for an innovation to be adopted in a social circle it has to be related at some point to the norms that are present to make it seem more approachable by traditionalists to encourage them to adopt it.

According to Rogers (1985, 2003), adopters are also divided into different categories depending on how quickly each type of person adopts an innovation: innovators themselves, early adopters, early majority, late majority and laggards.

Rogers described innovators as "venturesome", because they are always coming up with new ideas and concepts that they are eager to try out and use. Early adopters, as the name suggests, are those people who are first to adopt an innovation. These are usually 'localites' within a social system, where they are looked upon as role models or experts within the circle and people look to early adopters for advice and information about innovations. Early adopters speed up the adoption process in social systems (Rogers, 2003).

The early majority are the first large group of adopters to adopt an innovation. This is when the innovation starts to diffuse more widely. The late majority are people who take their time to adopt. They only adopt after the majority of their group have adopted, and the peer pressure is necessary to motivate their adoption. The last group of people to adopt are laggards. This group look to the past and hang on to it. They find change hard to accept, if ever (Rogers, 1983, 2003). The term laggards is quite negative, and it is not the usual language we use to describe and understand how teachers work. But I will be using this precise term in order to be coherent in my use of Roger's theory and adopter categories.

5.2.1 Innovation in Schools

It is believed by Fullan (1991; 2007) that, in schools, innovations in teaching and learning target some form of educational change. Changes in schools are designed to help teachers accomplish educational goals more effectively. Updating or possibly changing existing curricula and practices to new ones is believed to be more effective to achieve educational goals.

Fullan (1991) labelled most educational changes as "first-order" innovations, those that are made to "improve the efficiency and effectiveness of what is currently done" (p.29) without affecting the organisation's basic features, but rather affecting the manner in which the children and adults currently perform their roles. There are also second-order changes which deal with the way the educational organisation is structured. Second-order changes are those that require a restructuring or reconceptualization of an organisation's roles, goals and structure. Generally, it is very hard to succeed with second-order changes (Fullan, 1991; 2007).

According to Fullan (2007), reforms in education fail when they are based on abstract theories that are not related to practice. Innovations made with limited or non-existent contact with their target social circle, and with limited understanding of how schools work, are destined to fail (Fullan, 1991; 2007).

Change in education involves change in practice, regardless of whether goals are reached or not. Change involves revised or new instructional materials and new teaching approaches, as well as some form of alteration of beliefs (Geijsel et al., 2001; Fullan, 1991; Rogers, 2003). Innovations result in many changes, mostly to educational beliefs, teaching behaviour and the kinds of teaching materials that are used. Change is multi-dimensional and the educational change process is complex (Rogers, 1983; Fullan, 1991). Teachers' conceptions have to be altered, in addition to their identities in class and their competence in teaching. Fullan (1991, 2007) argues that change is difficult to achieve when change involves learning new skills. Rogers' (1983) thoughts correspond with Fullan's; it is hard to change one's beliefs and core values.

As mentioned earlier, it takes a long time to achieve success in adopting an innovation in education (Rogers, 1983; Fullan, 1991). This is because educational innovations usually require new skills and approaches that lead to fundamental change. Once this has been achieved, the educational innovation will have a significant impact (Fullan, 1991). According to Fullan (1991), change happens in three

phases: a decision to adopt, implementation and continuation. He believes that "change is a process, not an event" (p.46).

In relation to consider change as a process, Rogers (1983, 2003) acknowledged and labelled five separate innovation-adoption categories into which all people in a society will fall, as outlined previouslt. Building on this, Leana (2011) classified adopters in education, specifically teachers, into four groups. First there are renewed teachers (early adopters) who are constantly learning new concepts and challenging themselves. The second group is disenchanted teachers (early majority), who were once enthusiastic about change but through negative experiences have become dispirited. Leana believes they can regain their motivation. Then, there are quiet teachers (late majority), who are timid or reserved. These teachers prefer to work in small groups, rather than with the entire school, to make changes. The fourth group of teachers is made up of resisters and reprobates (laggards), who do not accept new changes. Newmann and Wehlage (1995) also found that schools that did immensely well were those that had a learning community present between the teachers and the school administration (Newmann and Wehlage, 1995).

According to Fullan (1991), to successfully initiate change in schools involves three stages, and Fullan (2007) put the stages in order. First, the relevance of change should be explained to teachers and what change can offer them. The second stage involves preparing and making teachers ready to accept change; teachers should understand why changes are being made and they should be willing to accept them. The last stage is to ensure that adequate resources are available. To implement any idea, resources need to be readily available at the implementation stage.

Fullan defines implementation as "learning to do and learning to understand something new" (Fullan, 1992, p. 22). To implement an innovation in schools, the professional development of teachers is essential, as training and preparing teachers are considered the 'core' of implementing new learning (Fullan, 1992, p. 23). They need how-to-do-it practical knowledge in addition to lectures and learning from manuals or guides (Fullan, 1991; 1992; Pfeffer and Sutton, 2000). When introducing an educational innovation, there has to be a clarified need. This need has to be important and the reasons why the change should be implemented must be fully explained. Change involves people's behaviours when ideas are put into practice (Rogers, 2003; 1983; Geijsel et al., 2001). In addition, there has to be some knowledge as to how these needs are being addressed, with the progression towards them clearly shown, bearing in mind remaining consistent with the existing values of potential adopters to facilitate acceptance (Rogers, 2003, p. 266). "If the changes facing teachers seem confusing and disconnected, this is often because what is driving them, the context from which they

spring, is unclear" (Hargreaves, 1994, p. 83). It is also important to clarify how the addressed needs are going to be met. Teachers need to know how and what they need to change in order to succeed.

Complexity is another issue when implementing an innovation. Fullan (1991, 1992, 2007) and Rogers (2003) claims that the more complex ideas and processes are, the less likely they are to succeed. Yet, on the other hand, Huberman and Crandall (1982) found those attempting to implement major changes ended up with bigger achievements. In all cases, good implementation stems from good planning (Fullan, 1992).

Fullan (1991) and Geijsel et al. (2001) believe that the culture and the state of the environment in schools helps teachers implement innovations. Teachers are encouraged to share and communicate with each other. Moreover, staff need to be developed and trained to prepare them to start implementing new changes. Educational change primarily relies on the teachers, even more so on what they do and think. So, having a teacher on a 'change' committee makes sense and their presence on such committees can facilitate acceptance of the changes proposed by fellow teachers (Fullan, 1992; Geijsel et al., 2001). Moreover, Fullan and Hargreaves (1992) found that teachers with long experience felt the need to have a say in changes because of their expertise in the field itself. Change is always needed since, with time, teachers get bored. Fullan (1992) explains the presence of pressure to change, and that support is also important for the successful implementation of change. Teachers learn most when they collaborate and seek advice and expertise from each other (Fullan, 1991, 2006, Leana, 2011; Datnow, 2006; Hargreaves, 1994; Granger et al., 2002). Fullan adds that interaction between peers and the drive to change produces a 'good' kind of pressure that pushes teachers towards change with the support of their colleagues. Pressure and support work hand in hand.

Innovations are more likely to take hold and be 'genuinely' implemented when there is a visible improvement in students' attainment, argues Fullan (1992). This gives teachers incentive and inspiration to continue with and adopt innovation. Another factor that encourages teachers to continue with new innovations is the support, help or explanations they can find to solve any problems or mishaps they may encounter. During the implementation stage, success mainly depends on the active input and participation of teachers (and their supervisors in the case of Kuwait) to jointly locate and understand the nature of problems that arise and produce effective solutions from within their fields (Fullan, 1992; Hargreaves, 1994). Fullan emphasises that successful implementation relies not only on teacher training, but also on constant interaction between teachers during the implementation period when testing the innovation or, in this case, the changed curriculum. Isolating themselves and limiting interactions with their peers has both positive and negative effects; good practices get noticed and rewarded, bad practices remain unnoticed and uncorrected (Fullan and Hargreaves, 1992). Fullan

(2000, 2006; Fullan and Hargreaves, 1992) stresses the necessity for teachers to open up and leave the isolated environment they engulf themselves in and to start sharing techniques and practices. He states that collaborating will improve teachers' competence regardless of their past experience: "twenty years of doing the same thing is only one year of experience twenty times over" (Fullan and Hargreaves, 1992, p. 19).

Leana (2011) conducted a study in a New York City elementary school and suggested that it proved that Fullan and Hargreaves's (1992) claims are true. Leana's (2011) study verified that those teachers, regardless of their individual experience or talent, who collaboratively worked together, did in fact get higher student achievement outcomes. Teachers, when confronted with the issue of changing their teaching, have high expectations for the outcomes, they usually put in a lot of effort and as a result they end up overloaded and burnt out (Fullan and Hargreaves, 1992). Training teachers in what to do and how to do it is the most critical factor in the successful implementation of educational change. Fullan and Hargreaves (1992) state that staff development has to be done *with* the teachers instead of *to* the teachers, and even less likely *by* the teachers. When teachers feel confident and have a sense of mastery, it gives them a motivating and assuring sense, which encourages them to implement change (Fullan, 1992; 2007). He rationalises this by adding the importance of listening to teachers and understanding their class dynamics. Teachers are the key to change, and a collaborative culture facilitates a commitment to change by creating communities of teachers who work harmoniously together (Fullan and Hargreaves, 1992). Further, Fullan and Hargreaves (1992) believe that in order to succeed with new innovations, there has to be a relationship present as well as continuous contact with the innovators themselves as leaders of the project throughout the whole diffusion process, and not just at the beginning. There is a need for induction programmes and the opportunity to discuss any difficulties or ideas for improvement with the mentors.

> However noble, sophisticated, or enlightened proposals for change and improvement might be, they come to nothing if teachers don't adopt them in their own classrooms and if they don't translate them into effective practice
>
> (Fullan and Hargreaves, 1992, p. 21)

There are many reasons for the failure of educational reforms, such as poor solutions to complex problems which may arise, and unrealistic timelines for results. It is like a chain, when one component is missing or breaks, everything crashes and fails. One might, therefore, characterise the chain thus:

Innovation → explanation and accepting → understanding the skills needed → learn the skills → train to use the skills → confidence → implement → peer interaction → results → SUCCESS

Of course, processes are never quite so linear, and so these phases are likely to overlap, and some repeated.

5.3 Teachers and their Attitudes

The increased complexity of today's world and its rapid changes present new challenges for our education system, and teachers like everyone else are being affected by the fast pace of the modern world we live in, with its endless demands (Hargreaves, 1994). Hargreaves (1994) describes today's students as a generation that was born surrounded by digital technology. This technology has become a ubiquitous part of students' everyday lives and the use of "textbooks, worksheets, and overheads are a poor match" for these hi-tech visual images (p.75). He adds that for this reason it is not surprising that students find themselves disengaged from their classrooms. Hargreaves highlights that teachers need to have technological awareness and to change their familiar pedagogical views to keep pace with their students. He argues that "teachers must be both competent users of and innovators with technology" (p.76). Cope and Ward's (2002) study of high school teachers' perceptions of learning technologies shows that teachers have a need for professional development and training on how educational technology should be used to enrich their students' learning outcomes. Teacher development programmes should be designed to explain the largely particular learning and teaching activities which have been found to impact effectively on student attainment. In addition, support should be available to teachers at the time of implementing these new concepts, and not just during one-off training sessions (Vanderlinde and van Braak, 2011; Malderez and Wedell, 2007). When teachers feel a sense of comfort, trust and support in their teacher development team, they will be more likely to adopt the proposed innovation (Vallett et al., 2014). A study of primary school teachers in Turkey found that if trainers take teachers' existing beliefs and grounded classroom practices into account when initiating new ideas, adjustments and change will be more easily implemented and accepted (Kirkgoz, 2008).

Over the course of their careers, teachers encounter endless changes. However, Hargreaves (2005) points out that not all teachers are able to accept and adapt to educational changes easily. Each individual responds differently to the emotional aspects of change, and these responses are influenced

by various factors such as age, gender and experience (Hargreaves, 2005). He characterises younger teachers as being more adaptable and enthusiastic to change, regardless of their professional insecurities (early adopters in Rogers' classification). He then characterises teachers at the end of their careers as being worn down with repetitive educational changes throughout their working lives (which may have not provided them with any obvious benefits). As a result, they are resistant to change and show dissent, choosing to end their careers by concentrating their remaining energy on a pedagogy they feel comfortable with, which promotes rewards of accomplishment (Rogers' adopting laggards). Hargreaves (2005) analyses teachers in the middle of their careers as holding back their enthusiasm for change. They are confident, although cautious. They are open but at the same time 'selective about the change initiatives they adopt' (p.981), putting them in the late majority of Rogers' adopters.

As teaching involves human interaction, it is only normal that it arouses emotional feelings from teachers and those around them. These emotions are what create a monotonous or exciting classroom environment. From a psychological perspective, Hargreaves (1998) suggests that emotions are at the heart of teaching, claiming that, "good teaching is charged with positive emotion" (p.835). Hargreaves (2000) explains that, unfortunately, many educational policies devised and applied have not paid much attention, if any, to these emotions and argues that they should (Hargreaves, 1998). Hargreaves (1994) describes teachers as having the sensation of being rewarded when their students show affection towards them and enjoy learning in their classes. These rewards strengthen feelings of accomplishment and fulfilment for teachers.

5.3.1 Teacher Perceptions

According to Kukulska-Hulme (2008), the introduction of a new toy arises sensations of fear or joy as a response to the unknown. This is exactly how some teachers feel regarding the use of new smart portable devices in their classes. The digital world offers many exciting possibilities for creative and meaningful teaching and learning; however, some teachers fear new technology as they are not well acquainted with its use and many different and varied functions.

Change is a constant condition in our educational system, which has implications for a teacher's identity and role. Kukulska-Hulme (2008) discusses how teachers feel when under pressure to succeed and to keep up with new pedagogical trends, even if it means leaving their 'comfort zones' of teaching and losing their familiar superior positions in their classes. Many teachers are not

convinced that portable technologies are learning tools but rather classify them as entertainment devices not suitable for use in class (Ching et al., 2009). On the other hand, Kukulska-Hulme explains that students are not always on trend nor are they always as technologically savvy as Prensky (2001a, 2001b) assumes. Students, like their teachers, also feel pressure to be knowledgeable on how to use any digital device they are presented with. This is one of the main reasons why students prefer to use smartphones. They feel more familiar with using smartphones and one of the main advantages is the fact that the devices are always "on hand" (Irina, 2012; Clough et al., 2009; Kukulska-Hulme and Pettit, 2009).

Teachers concede that there is a higher level of student collaboration and knowledge-sharing in class, greater engagement with presented topics, and varying higher levels of learning independence (learning autonomy) when devices are cautiously integrated in schools (Vahey and Crawford, 2003; Kukulska-Hulme et al., 2009). However, both students and teachers need enough time to familiarise themselves with these devices prior to actual learning tasks. This should involve training for teachers to help them comprehend how to use blended learning pedagogies effectively in their curricula and assist them in updating their learning goals in general (Barker et al., 2005; Radu, 2012; Irina, 2012). However, based on past projects, Fisher, Higgins, and Loveless (2006) explain that there are exceptions and some teachers are able to integrate technology (in general, not just mobile devices) successfully without any formal training, especially when given the freedom to choose the manner in which technologies are implemented in their lessons. This mostly occurs when teachers 'update' themselves individually, and do not rely on the school, for example, to provide them with specific training to update them on current pedagogical trends (Kukulska-Hulme et al., 2009; Fisher et al., 2006). Ally (2009) concludes that "to be convinced that mobile learning is effective and will benefit them in the delivery of instruction" (p. 280) is a vital factor for educators if they are to succeed in the implementation of new technology. Otherwise, teachers will not put in the 'extra' effort to learn how to use technology, to become familiar with it and to change their way of teaching and so may possibly ignore the whole trend altogether.

5.4 Conclusion

As the research outlined in this chapter has suggested, in order to adopt technology, teachers need to believe in the use of technology, they need to understand and see for themselves how innovations in educational technology can improve their practice and make their lessons more fruitful. As explained above, teachers will not feel encouraged to adopt technology if they do not understand or see its

benefits. Therefore, in Kuwait's case, it is up to the Ministry of Education to provide and introduce educational technology as an innovation that will facilitate teachers' teaching better. The literature review has revealed that these points are important and need to be looked at in Kuwait's context. The study reported in this thesis, therefore, was undertaken in order to identify how teachers responded to a government initiative which focused on developing practice in the area of educational uses of technology. The next chapter will discuss the research philosophy and methods chosen to collect and analyse data to answer my research questions.

Chapter Six

6. Methodology

6.1 Introduction

At the start of the 2015 academic year, the State of Kuwait saw the implementation of its new and improved and modernized Grade One English language curriculum which sought to improve the quality of education (Alkhoja et al., 2014). This drew my attention, I was eager to know how teachers would integrate technology in an educational context, and how many teachers would adopt this educational innovation. To analyse this angle, the perceptions of Kuwait's Grade One English language teachers are sought in this study, specifically those who taught the proposed curriculum in state schools. The study explores their thoughts and feelings regarding the use of technology in their lessons and the degree to which they are open to assimilating technology in their classes. A mixed-methods approach using both interviews and questionnaires is employed in this study for the collection of data and to address the research questions posed.

6.2 Research Questions

The main research question is:

> **What are English language teachers' experiences of implementing the new English Language curriculum in primary schools in Kuwait?**

The main question is subdivided into sub-questions:

1. **To what extent have teachers embedded technology in the new curriculum?**

The first sub-question seeks to examine the ways technology was employed by teachers in relation to the curriculum change. This is achieved through an investigation of teachers' skills and knowledge on the use of technology as a teaching aid and as part of lesson plans. The question explores their feelings, as well as their perceptions, towards incorporating technology into their teaching practice.

2. **What are the barriers/ enablers that teachers face in embedding technology into the new curriculum?**

This sub-question explores the problems teachers face during technology integration. It seeks to establish the factors that stimulate them and ease the process of integrating technology into their lessons. Contrastingly, all factors that increase the difficulty of the process are also investigated.

3. **What were the rates of adoption of the curriculum innovation by the various teachers involved in the study?**

This sub- question addresses the speed of teachers' adoption of technology, i.e. its rate of integration. It measures whether the approach to using technology in teaching was in fact, at the time of data collection, diffused and adopted by its target society.

All questions were addressed via semi-structured interviews, and a questionnaire was used to additionally test further some of the interview findings. The questionnaire was presented online and was completed by Grade One English language teachers. The first phase of data collection took place in the second quarter of the academic year, with follow-up interviews taking place during the fourth quarter of the academic year. The questionnaire was first circulated during the second quarter, as well towards the end of the academic year.

6.3 Research Philosophy

The research philosophy underpinning a study concerns the belief system governing how data are collected and analysed. As part of the research design, consideration was given to what would be the most suitable research philosophy for this study. To determine this, the research questions were considered together with how best they should be addressed. Below is a discussion of several philosophies considered by me —a social researcher—together with an explanation for the acceptance or rejection of a particular philosophy.

6.3.1 Positivism

Positivism is mainly based on science and is associated with quantitative data. Positivists follow strict rules and propose a hypothesis. Their hypothesis is then tested against the facts. Positivism mostly deals with quantitative data to prove a hypothesis (Silverman, 1998). Robson (2011) explains how

positivist studies examining the same reality end up establishing the same facts and that it is this re-confirmation that makes the outcomes of such data valid and reliable. The data should generate results that are only observed from one perspective, therefore making them credible. Positivism separates values from facts. There is no place for values in positivism, it is all founded on science and facts that are gathered through direct experience. Positivism always relates events to set 'laws'. Data are always interpreted by applying logic and reason. In line with Robson, Wellington (2015) defines positivists as objective researchers. Their work aims to be value-free, generalisable and replicable (p.26). They depend on the ability to quantify data through the assignation of numerical worth to all data. Consequently, the most suitable data form to employ in such research is quantitative rather than qualitative data sets. Moreover, quantitative data that provide specified values are more valid and reliable from a positivist's perspective.

Positivism suggests that in the collation of real sensory concrete knowledge, data need to be observable and manageable. This is challenging for social scientists as there is no scientific method that can measure or study respondents' thoughts or actions. This therefore limit what positivists as social scientists can study. Positivists do not differentiate between the natural and social worlds (Silverman, 2006). Positivism only recognises sensory events and ignores abstract ideas which are considered to form a major part of human knowledge. Positivists are in search of 'laws' that will guide our understanding of human behaviour. Knowledge is not always scientifically measured or carved in stone. A lot can be learnt from the world that scientific numbers cannot represent. Even when positivists enquire socially, they do so all the while believing that society can be replicated (Silverman, 2006).

For the most part, positivists use exclusively quantitative approaches, even when researching social science fields. Regarding this study, a positivist quantitative approach could be used for the questionnaire but would raise issues for the analysis of open-ended interviews. Positivists require interviews to yield 'facts' about the world, just as a standardised multiple question questionnaire does. Results from interviews need to be tabulated. Researchers who use a positivist approach are as a rule against open-ended and unstructured interviews, as they consider such interviews not to be comparable. It is difficult to set analytical codes for a social occurrence, unlike studies of scientific occurrences. They believe that interviews need to be strict and standardised to produce similar points to measure (Silverman, 2006).

Positivists are not able to interpret social interactions as feelings about social experiences cannot be coded. This underlines positivism's major weakness within the human social sciences. This study employed unstructured interviews, interviews that allowed social interaction. This eliminated the

possibility of using a positivist approach for the analysis of interviews. The interviews did not follow a set protocol as positivists feel the need to do (Silverman, 2006); rather, the interviews flow at a rate determined by the interviewees, whilst simultaneously ensuring that all the prepared questions were covered. Still, the questions were not rigidly standardised. This allowed room for paraphrasing and explaining various questions so as to clarify them for the interviewees.

Positivism requires the researcher to be detached from their respondents (Robson, 2011). That is why positivists prefer quantitative data methods which consequently do not stipulate interaction between respondents and researcher. Positivists most commonly use questionnaires in the social sciences, as employed in this study. However, the additional use of unstructured interviews restricted the employment of a positivist perspective in the analysis of this data.

After reviewing this approach, I concluded that this philosophy does not suit my research path, but instead I adopted a philosophy identified as interpretivism.

6.3.2 Interpretivism

Interpretivism is an approach employed in instances where the researcher appreciates the differences between people in a society (Goldkuhl, 2012; Chowdhury, 2014). Interpretivists do not expect standardised results carved in stone as positivists do. Each participant in a study has an individual story to tell. Interpretivists' goals are to understand and analyse their stories. They consider what and how the problems faced in society are dealt with. Human behaviour may be explained only descriptively. This is the reason why social scientists believe that the study of a society's social actions necessitates the use of an interpretivist approach in the examination of data by a researcher (Wellington, 2015). They search for unique meanings in their interactions with participants. An interpretivist approach avoids the rigid structured frameworks that positivists utilise. Instead, they adopt a more personal and responsive structure. Edirisingha (2012) believes that respondents and researcher have to be 'mutually interactive' (p. 3). Interpretivists 'pride themselves on knowing more about communities they study than positivists do' (Lin, 1998; p. 172). It is the opposite of what the positivist approach stands for. Interpretivism opposes the standardisation, restriction and structuring of data. Interpretivists believe in looking at the social world through the eyes of their respondents and in examining many perspectives from different individuals. They believe that the world cannot be observed from one angle and nothing is either correct or incorrect from a interpretivist's point of view (Goldkuhl, 2012). Contrastingly, positivists accept only one set of correct answers. Interpretivists

report their data narratively and not by using numbers, charts or tables, as positivists do. They reject any tabular data. They are subjective researchers; they presume their subjects make their own choices and are not based on any kind of science. Goldkuhl (2012) explains that interpretivists examine the world from their respondents' perspective in a process termed 'verstehen'.

The data collection methods, qualitative and quantitative, contrast with each other too. Creswell (2009, 2013b) states that 'qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem' (Creswell, 2009, p. 4). Therefore, in studying an aspect such as Grade One teachers' attitudes and experiences in this thesis, I employed qualitative research as a means of comprehending their thoughts and experiences. For interpretivists, it is crucial to gain both insights and in-depth information. The data collected, through interviews for instance, are difficult to replicate and, unlike quantitative data, are hard to generalise.

Interpretivist researchers are respondent-led, since the respondents are the source of deep and rich data. They are interested in how individuals describe their actions, how they describe their views and explain what they are. Interpretivists are curious about their respondents' feelings, emotions and reactions. They approach data primarily qualitatively (although quantitative methods are sometimes used, as in this study), specifically through un-structured or semi-structured interviews, observations and documents. They seek to comprehend the behaviours of sampled individuals. Through analysis they strive to relay each individual's story of how they came to be, by clarifying their conduct and gaining insights into their motives (Chowdhury, 2014). Respondents are different individuals with variable experiences. Interpretivists examine their subjects from different angles. Moreover, they react to social occurrences differently. The researcher considers the lives of respondents to understand why and how they react in the particular way they do. The employment of qualitative methodologies affords the researcher the opportunity to relate and comprehend their findings. Feelings and reason govern the actions of the researcher (Edirisingha, 2012).

Thanh and Thanh (2015) explain that there is no single reality in interpretivism. They go on to explain that 'interpretivism is a methodology that allows the researcher to examine what the participants have to say about their experiences' (p. 25). The researcher seeks answers for their research in a rigid manner, but they approach the reality through their subjects, by studying their sample as a precise group who share their own experiences (Thanh and Thanh, 2015, p. 25).

Per Edirisingha (2012) states that an interpretivist researcher enters their field with prior perceptions and understanding of the study's context. Such researchers enter the field in search of information that will back their perceptions and translate them into reality, whilst simultaneously being capable

of embracing new knowledge conveyed by their respondents. It is essential for the researcher to understand the respondents. The use of qualitative data collection gives the researcher the privilege of being close to their sample of respondents. Qualitative data supersede quantitative data as they are gained through a freedom that allows the researcher to investigate and comprehend the perspectives of the respondents more deeply. While scientists use quantitative data to measure results in numbers and as 'amounts', many social scientists rely on qualitative data, as it is the manner in which feelings are analysed in social events. Interpretivists do just that, they typically measure phenomena largely through interviews or observations. Analysis depends on the researcher. Unlike quantitative data, which cannot be modified, qualitative data are affected by social, behavioural and cultural parameters. Qualitative data comprise subjective information collated from people. The researcher then organises and codes the data to enable their interpretation and to give them meaning. The researcher experiences the world through the eyes of the respondents, as the meanings derived from the data are constructed as the researcher interacts with the social environment. The interpretivist researcher's task is to interpret and 'understand the multiple social constructions of meaning and knowledge' (Robson, 2011, p. 24) they find in the data. The accuracy of interpretations of data hangs on the accuracy of the interpreting and its circumstances (Lin, 1998).

Creswell (2009; 2013b) states that interpretivists tend to compare their findings to knowledge and facts derived from previously covered literature and theories. This guides the researcher, which means the researcher can then 'confirm past knowledge or diverge from it' (Creswell, 2013b, p. 200). Williams (2000) supports Creswell in that interpretivists seek to decipher their data with a subjective frame of reference. This method of comprehension can also bring up novel and unexpected questions.

My study was undertaken primarily from an interpretivist stance, in that I recognise that knowledge is perspectival. However, I also used quantitative data in this study, and so also feel that I also needed to consider the features of pragmatism, outlined in the next section.

6.3.3 Pragmatism

This philosophy encompasses many angles; however, they generally all originate from actions, situations and consequences. Pragmatism is a philosophy of life (Creswell, 2013a). It is derived from the work of Pierce, James, Mead and Dewey, as well as that of Murphy, Patton and Rorty (Creswell, 2013b). Dewey's concept of enquiry is the core of pragmatists' beliefs. He defines pragmatism as 'the directed or controlled transformation of an indeterminate situation into a determinately unified

one. The transition is achieved by means of operations of two kinds which are in functional correspondence with each other' (Dewey, 1939, p. 9). Thus, pragmatists do not limit themselves to a single strategy in their studies but employ all strategies available to them in tackling their research questions. They are more concerned with the notion of how new knowledge is produced, and how the researcher should be active in thinking about creating the new data. Pragmatism is a method of enquiry that is mostly encouraged for social research and it particularly promotes the use of mixed methods approaches (Morgan, 2014a; Creswell, 2013b).

Pragmatists want to see beliefs in action, they have a practical view of the world and are concerned with real-world research. They aim to solve life's problems. They look at problems that truly affect societies and require resolutions. They search for suitable solutions to them. Pragmatists appreciate that evolution plays a role in societies and that the life that surrounds them is likely to change. The social world is not permanent, and therefore pragmatists know that they must adapt to these changes and work with them to their benefit. The pragmatists' reality is always changing, governed by human actions. They are lenient scientists who believe that the search for truth is relative. The truth keeps changing and evolving depending on the people, context, place or time it was established in. Changes mostly happen through experiences. People change through life; no one's thoughts and feelings are set. They vary over time and this is dictated by their life experiences. All world knowledge and views are based on experiences. There is no actual set truth, rather there are truths that differ based on people's own personal experiences. None of these views can be duplicated as each individual perceives experiences differently, thereby forming their own individual perspectives (Creswell, 2013a; Morgan, 2014a). Pragmatism is concerned less with reaching what the set truth is, and more with whether there a solution can be found to the problem presented. It is more 'practical than idealistic' (Cohen et al., 2018, p. 36). It is an approach that relates to real life and involves seeking solutions in the practical world.

Cohen et al. (2018) express that a pragmatist's chief focus is on identifying the answers they seek and not what methodologies they employ to achieve this end. They further argue that pragmatism does not have less value than any other philosophy, it is only that the values of pragmatism differ from that of other philosophies. Moreover, they argue that pragmatism is not sloppy as one might assume, it is a philosophy that seeks reliable and valid answers to proposed research questions.

Morgan (2014a, pp. 26-27) explains that pragmatism has three principles:

1. '*Actions cannot be separated from the situations and contexts in which they occur.*' Actions that occur in specific situations produce similar actions; with time, one learns the likely outcomes predicted in certain situations.

2. '*Actions are linked to consequences in ways that are open to change.*' One can never experience the same situation twice. Thus, our responses to situations are founded on our concepts and ideas, which lead us to expect certain consequences. That still, however, does not guarantee an outcome. Even our beliefs are in constant change with our ongoing life experiences.

3. '*Actions depend on world views that are socially shared sets of beliefs.*' Beliefs are connected and not isolated. That is how world views are produced. Although identical experiences do not exist, there is, however, an array of shared experiences. These experiences in turn produce shared beliefs amongst people about certain life situations they pass through. Meanwhile pragmatists believe there are no identical world views. People who share similar beliefs are likely to act in a similar manner in certain situations.

The details mentioned above lead to the pragmatic philosophy of not believing in a set reality, but believing in the evolution of human experience through life.

Pragmatists deem it crucial to employ various methodologies that are suitable for fulfilling the researcher's objectives and to achieve the desired solutions (Goldkuhl, 2012). Pragmatism is a problem-oriented philosophy. It encourages the use of the optimum research method to address and answer the proposed research questions. According to Morgan (2014b), pragmatism is a new paradigm that can be used in social research to 'replace an older way of thinking' (p. 1049), whereby a researcher has to confine themself to one thought process. Pragmatists are not committed to one particular style of philosophy. Creswell (2013a; 2013b; 2009; Creswell and Clark, 2018) has repeatedly clarified that pragmatists concentrate on the outcome of their research rather than the preceding conditions. Thus, rather than fixating on the methodologies used, pragmatists focus on the viewpoint and the results being researched. Pragmatism primarily focuses on the importance of the research questions, rather than the methods. They are 'pluralistic and oriented towards 'what works' and the real world practice' (Creswell and Clark, 2018, p. 37).

Thus, pragmatism is confined to the problem being researched (Cohen et al., 2018). While engaged in research, researchers may use both quantitative and qualitative assumptions liberally. Researchers are free to use any technique or approach they find best suits their needs. It is suitable for use with

both qualitative and quantitative methods as they share the commonality of reaching answers to questions as long as the methodology selected is suitable for addressing the proposed questions. Both Morgan (2014a) and Creswell (Creswell and Clark, 2018) agree that the pragmatist paradigm is a merger of both the constructivist and realist paradigms. This merging of two paradigms results in complementary knowledge. The ontology is constructed from both singular and plural realities, there is no set perspective. The epistemology is about being practical. The researcher chooses 'what works' for them to answer their questions. Thus, the methodology the paradigm follows is a combination of both qualitative and quantitative methods. The primary aim of pragmatists is to select a method for data collection and analysis that allows them to comprehend the subject they were initially questioning (Feilzer, 2010).

Pragmatism is a method of enquiry based on Dewey's five-step model. The first step is to identify the 'problem'. Once identified, step two tasks the researcher to consider the nature of the problem and why it is an issue. The next step is to design research to address the proposed questions. The fourth step involves revisiting the problem to allow reflection and re-thinking on the suitability of the methodologies selected with respect to answering the research questions and whether the data collected data will serve their purpose. The last step is to conduct the research (Morgan, 2014a, p. 33).

The paradigm they use is a shared belief system that affects the types of knowledge researchers seek in order to obtain data and how they construe any research evidence they may collect. The pragmatist paradigm is used to create knowledge (Brierley, 2017, p. 7). In addition to analysing data in different ways, rather than just using a single set method, pragmatists must understand why and how they need to mix their methods before they use an approach in their work. As Creswell (2013b, p.11) writes, 'pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data and analysis'. Onwuegbuzie and Leech (2005) explain that pragmatists have the advantage of being as flexible as needed in their exploratory techniques. Their positive attitude towards data collection practices allows them to utilise each one to complement others. Thus, they have the benefit of mixing methods to serve their purposes within a single enquiry project. Consequently, pragmatists are fortunate to have the choice of combining the 'strengths of both methodologies' (p. 385). Creswell (2009; 2013a) describes pragmatism perfectly as a paradigm that grants the researcher the choice to consider what methods of data collection work best to answer the proposed research questions. When selecting their methodologies, the researcher also has to appreciate their suitability of the methodologies and how the outcomes from each method can be assimilated and support each other for the benefit of their thesis.

Cohen (et al., 2018) affirm that a mixed methods approach encourages the pragmatism paradigm. Pragmatism is therefore the foundation for the use of a mixed methods approach. It focuses on the problem and the research questions. It is 'eclectic' with respect to the selection of methods for data collection and analysis (p. 34). Pragmatists are open to any method as long as they succeed in answering the proposed research questions. A mixed methods methodology is used to explore the world from multiple view points and is not confined to a single perspective viewed from a specific angle. Scientists use a mixed methods approach when they are not confined by boundaries they must adhere to. This affords them the freedom to select and use any method or technique that will meet their purpose.

Although a pragmatic approach was undertake in this study, the majority of the data are analysed through an interpretivist methodology. According to Creswell (2009, 2013b), the key to interpretivist philosophy is to study occurrences in their natural environment. Robson (2011) explains that, as an interpretivist, the researcher must ensure that their own pre-assumptions do not affect the data structure. They need to 'interpret' data using codes. This allows them to derive meanings from the data and to understand how and what their participants mean by their actions, and what they aim to achieve (Cohen and Manion, 2001).

Likewise, Mason (2002) explains that through an interpretive approach, the researcher sees 'people and their interpretations, perceptions, meanings and understandings, as the primary data resources' (p.56). Thus, the participants are identified as the foremost source of data by the researcher. This is the thought process followed in this study. The teachers' perceptions are central to the study and so they were pursued. The teachers were questioned over their actions with the aim of comprehending why and what they felt and searched for in their field. As an interpretivist, according to Denzin, the aim is to examine 'the hows and the whats of social reality' (Denzin and Lincoln, 2000, p. 488).

As a researcher, I studied the manner in which teachers 'construct' their way into integrating technology into their lessons. This is achieved through the analysis of what they describe as having accomplished in their lessons, how they managed to achieve it, what resources were used by them, and under what conditions they were working or able to integrate technology in their classrooms. Data were collected primarily through semi-structured interviews with the participants in the environment and at a time of their choice.

6.4 Positionality

When I first started to think about my thesis, I always knew I wanted to work on a study in which the outcome would be helpful and insightful to the educational sector in my country, Kuwait. And this was not just an academic endeavour of mine. I chose this issue because it was based on the newly introduced Grade One curriculum at the time I started my studies.

I discussed my idea with my supervisor whilst considering my own experience of once being a teacher at the Ministry of Education myself. As I commenced my study, I started to think about my role as a researcher. I felt I was both an insider and an outsider at the same time. I sat at the beginning of my journey, pondering what I was trying to find out in my research. That was what I started to reflect on at the time when I was, some years ago now, in the same shoes as the teachers I interviewed for this study. Having had a previous insider role was what sparked my motivation to persevere and investigate academically how and how far technology was integrated into the newly set curriculum.

I began my career in the educational sector as an elementary teacher back in 2004. I recalled the difficulty of learning vast teaching skills, which I lacked because I had graduated from the School of Arts, like many other teachers. I reminisced about how frustrated I was at that time at having no guidance other than attending a new teacher training programme run by the Ministry of Education, just like my interviewees did. This is the reason behind my feeling as if I was an insider. I have personally felt and experienced what they talked about. For that reason, I was very aware of the problematic situation I might be in. There could be inherent biases, so that my own past experience might affect the study.

During the study, I have committed myself to constantly being aware of my biased position and not letting my old feelings affect my interviewees during the interviews or my analysis. I have kept reminding myself to bear in mind that I am an outsider now, as I have moved on to teach in the higher education sector. I am no longer an elementary teacher, and in my study I have borne in mind the fact that much will have changed since I left elementary schools.

During the period of my study I have found myself reading an immeasurable amount of literature, which has developed my background knowledge further and engaged me deeper in my topic. It has enlightened me and been thought-provoking on many levels.

Looking ahead, I hope my study will help convey to the Ministry the shortcomings in teacher professional development. Moreover, I hope that my findings might be a means for supervisors and policymakers to see what is missing in the actual teaching field.

6.5 Research Methods

This study used, primarily, interviews as a method. However, an online survey was also used, so to that extent, it could be considered mixed methods, albeit in a limited manner. A mixed methods approach is, as the name suggests, one that involves mixing both quantitative and qualitative approaches. It combines both philosophical assumptions and theoretical frameworks. As Creswell and Clark (2018) define it, 'in mixed methods, the researcher collects and analyses both qualitative and quantitative data rigorously in response to research questions and hypotheses' (p. 5). They use of both forms of enquiry to reach a 'breadth and depth of understanding' (p. 4) of the proposed research questions. All forms of research questions are resolved using a mixed methods approach. It addresses the hows, whys and whats of the researcher (Cohen et al., 2018). The employment of both methodologies allows a greater comprehension of the research questions and affords the findings greater credibility.

In the next section, the use of mixed methods in research is discussed in more detail.

6.5.1 Mixed Methods

Campbell and Fiske's (1959) study of psychological traits was the first paper to use a multi-method matrix. Their work prompted other researchers to collect data in multiple forms. They used this strategy as they determined that all methods have their weaknesses, then reasoned that by utilising different methods together, the findings of one would support another, thereby strengthening the quality of the data collected (Cohen et al., 2018). By the 1990s, the idea of integrating different research approaches had developed. Many terms have been used to describe this form of data collection, such as integrating, multi-method or mixed methodology, although most writers have tended to use the term 'mixed methods' (Tashakkori and Teddlie, 2010).

The mixed methods approach spread to various fields in the 1980s, including sociological, educational, management and health science research. It has been developed through periods of

procedural development and debate. It is chosen for its power to blend both qualitative and quantitative approaches while minimising their limitations. It provides a 'sophisticated, complex approach to research that appeals to those on the forefront of new research procedures' (Creswell, 2013b, p. 218).

The mixed methods approach has developed over recent years in educational research with a distinct rise in popularity among researchers (Bryman, 2006; 2012). Creswell (2009) further defines a mixed methods approach as a procedure for collecting, analysing and mixing both quantitative and qualitative data in one study. Many researchers, including Creswell (2013b), argue that this approach not only excels at assimilating quantitative and qualitative data but that it is also useful in closing gaps in research (Flick et al., 2004; Robson, 2011; Wellington, 2015). A mixed methods approach has the advantage of being able to answer research questions that each method by itself would not be able to completely answer. Using a mixed methods approach 'enables the researcher to simultaneously answer confirmatory and exploratory questions, while also verifying and generating theory in the study' (Rajab, 2013, p. 76). Tashakkori and Teddlie (2003) produced a handbook that comprehensively discusses using a mixed methods approach in the social sciences. Following in their footsteps, numerous journals now focus on the use of this method, such as the *Journal of Mixed Methods Research*, *Field Methods* and the *International Journal of Multiple Research Approaches* (Creswell, 2013b, 2009).

Creswell and Clark (2018) explain that certain steps need to be followed once a study has been designed and when using a mixed methods approach. This starts with collecting the quantitative and qualitative data needed. The researcher then analyses these data to answer the research questions. Once the data are analysed, the analysis results are combined using the logic selected for the study. Finally, they frame the final findings using the chosen theory. Mixed methods research can be used for two reasons. Two sets of data may be either supplementary or complementary to each other. When this is used in a supplementary way, one method works as an addition to the other. However, if they are complementary to each other, then one method makes up for the shortcomings of the other (Cohen et al., 2018). The researcher should determine why and what they need a second method for. In the case of this study, I chose quantitative data to supplement the qualitative data. Questionnaire data are used to support and validate the interview findings. On reviewing the research questions extensively, and contemplating whether one methodology would suffice in answering the research questions, I came to the conclusion that this study would benefit from supportive data to supplement the qualitative findings in order to identify how far the teachers' rates of adoption of the curriculum innovation in this study were shared by others in the wider field.

A qualitative approach can be used to explore and understand social groups or individuals in certain situations or contexts. Data are collected in natural or formal social settings. They are then analysed using themes and the researcher's interpretations of the evidence, and reports are written using flexible structures. Researchers who use this method look at 'research that honours an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation' (Creswell, 2013b, p. 4). The inclusion of qualitative semi-structured interviews ensures that a great amount of time is spent with the sample teachers to allow a deeper comprehension of their perspectives and feelings. Moreover, by including semi-structured interviews as a means of gathering qualitative data, I had the opportunity to meet my teacher sample and listen to them. This allowed me to develop a better understanding of their feelings and perceptions. That is something that quantitative methods alone could not provide me with. The voices of participants are not heard in quantitative methods, so the use of qualitative methods compensates for that (Creswell and Clark, 2018, p. 12).

The research design involved the distribution of a questionnaire via the Internet, with help in its distribution through social media exposure to reach as large a sample as possible. Next, in the same time frame as the start of the questionnaire distribution, an interview schedule was set up with the sampled teachers to conduct initial interviews. Short follow-up interviews were also conducted at the end of the academic year, through WhatsApp calls, which gave the interviewees more time flexibility. Follow-up data were collected to determine how far technology use has spread in schools and whether existing barriers had been surpassed by the end of the school year. Although both data sets were collected at the same time, they were still collected independently from each other, and analysed independently as well. During the interpretation phase, quantitative data are used to supplement and support the qualitative findings.

Creswell and Clark (2018) rename parallel design to 'convergent design'. This change in name is because the findings of the two methodologies do not only run side by side, they are also brought together after analysing each set separately, to allow their comparison. The intention of the methodology is to obtain a result with a more complete understanding of the research problem. It can also validate the results and allow comparing them to each other (p. 65). A convergent design, as shown in Figure 3 below, primarily uses a triangulation design. So, the results of qualitative and quantitative data are triangulated for the same topic.

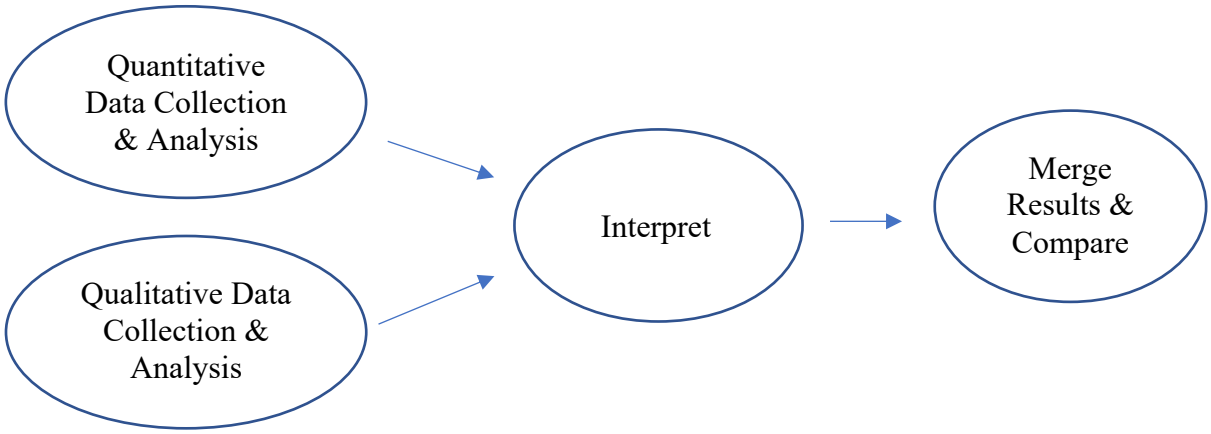


Figure 3: Creswell and Clark's Convergent Design

The methodology concerns the use of different kinds of data to complement the topic explored. This is not necessarily only to triangulate the data, it can also serve to explore a richer understanding of the research problem, to validate the findings. Each data set is analysed separately using techniques that are traditionally connected with each other. Then, in the stage of interpretation, the data sets are compared. Creswell and Clark (2018) state that there are three variants of their convergent design. This study follows one of them: the data-transformation variant in this study. This variant involves the researcher specifically following a convergent design while simultaneously using unequal priority for the data. This study prioritises the interpretation of the analysis of the qualitative findings (semi-structured interviews), whereas the small amount of quantitative numerical findings gathered by the questionnaire are used to support the primary findings to triangulate the results and validate them. The next step is to look at and think about the teacher sample for the study.

6.5.2 Sample

The samples are examined for different, but congruent purposes. The smaller teacher sample is used to obtain a rich perspective, while the larger sample used to identify the extent to which the teachers' views correlate with more general opinions and to view distribution across Rogers' (1983, 2003) diffusion of innovation adoption profiles. The sample interviews with the supervisors also served the purpose of attaining a more comprehensive perspective, as they aided teachers in the adoption of the new curriculum and its demands.

As Robson (2011) explains, when planning a research study, the sample used has to be a specific one. It must have the purpose of fulfilling the need to answer the research questions appropriately. Therefore, the participant sample I sought would consist of Grade One English language teachers

specifically, as they were the ones applying the new curriculum with different forms of technology integration levels, in addition to supervisors who introduced and trained these teachers to implement the newly set curriculum.

While I was only able to secure interview times with two supervisors through personal contacts, I was able, through word of mouth, friends and acquaintances, to contact quite a large number of teachers who were willing to participate. I was advised by the supervisors to contact willing teachers individually myself, as they were concerned that teachers might feel obliged to participate once they saw my official access papers for their schools. As a former elementary teacher in Kuwait, I had contacts through my work whom I was also able to communicate with, together with elementary level supervisors—both of whom I invited to contribute to the study.

The original research design included undertaking class observations as part of the data collection. Class observations were included in order to observe how teachers were in fact using technology as part of their class teaching and learning. After I got the ethical approval from the University of Sheffield and I started to get in contact with the potential participants, I came to realise how reluctant the teachers were with regard to being observed.

Teachers were not willing to give consent to be video recorded. They explained that it made them feel judged. In return, I explained that this was not what I was after at all. The teachers were all women and because of our Arabic culture, they did not feel comfortable with the idea of having a video recording of themselves in someone else's hand. Furthermore, some of the teachers wore a niqab which means that other than their eyes, their faces were covered. But because the primary school's environment was women only, they took it off during teaching. However, if there were to be a video recording, they would feel obliged to keep wearing it because of their religious beliefs. They felt that would confuse their students as they would not be looking at their teachers' faces, which in return could affect the authentic class environment.

I did explain to them that the recordings would be kept private, but they were still not persuaded to consent to any video recordings. I did not want to force them into giving me consent against their will. I then considered undertaking written observations. However, I felt that teachers may not have acted their natural selves when they knew they were being observed. As I have mentioned above, the teachers perceived being observed as being judged, and because of that I felt that I would not really be observing teachers' regular classes, but a performance that they might feel obliged to undertake. The lessons may then well no longer be authentic. Because of these obstacles, I decided to not do any class observations and I obtained a larger sample of teachers to interview instead.

Thus, the findings of this thesis are reliant on interview and questionnaire data. This means that teachers may have overemphasised or, conversely, underemphasised the extent to which they use technology in the classroom. This is a limitation of the study.

I started distributing the questionnaire via a Web-link, text messages sent by SMS, email and social-media platforms. Moreover, I kindly asked those who received my questionnaire to forward it to their fellow Grade One teachers who they knew fulfilled the purposed sample needed. The social media platforms I used were Facebook, WhatsApp and Twitter.

As for the interviews, I initially contacted my former colleagues, who are now heads of their departments, explained my study and asked them in return to discuss the study with teachers' in their departments and if they were willing to participate and take part in my study. With time, and through word of mouth, I built a large convenience sample of teachers who were willing to participate in this study – a snowball sample.

Once the sample of teachers was set, I contacted each teacher separately to schedule an appointment that suited their own time schedule. I then proceeded to set times and places accordingly. Most of the teachers requested to be interviewed in their own schools during school hours. That was not an issue, but because that meant I was going to enter those schools as a researcher, I had to do some formal paperwork first. There is a certain ethical protocol that must be followed in Kuwait in order to be granted access to school buildings to conduct anything research-related. This ethical procedure is explained later in this chapter.

I was hoping to work with Grade One English language teachers from each of the six educational governorate districts in Kuwait. I aimed for the teacher sample for the interviews to be as diverse as possible by including teachers from different social-class suburban areas—ranging from the upper class to the lower class. This should have covered all the educational districts, thereby allowing sampling from the range of social classes found in Kuwait. Unfortunately, I was only able to confirm willing participants from four out of the six Kuwaiti governorates. The schools they worked in were divided between three social classes, so upper-, middle- and lower-class school areas were all investigated. Regardless, my sample still included Grade One teachers from the targeted range of schools in different areas serving different social classes. Moreover, I targeted teachers with different numbers of years of teaching experience. My finalised sample had new teachers with less than five years of experience, some more experienced teachers with around 5–10 years of experience, and a highly experienced teacher group with over 10 years of teaching experience. In this way the sample

covered all experience ranges. Therefore, I was granted the opportunity to collect an extensive amount of qualitative data via interviews. The sample was a purposive, stratified one.

Table 1 below lists the teacher sample detailing all the participants who were interviewed to collect data for my thesis.

Teacher	Age (years)	Teaching Experience
Sabeeka	29	6 years
Marwa	34	8 years
Zainab A.	30	7 years
Lina	30	8 years
Rania	34	12 years
Fatma	36	10 years
Latifa	38	14 years
Fatma S.	37	12 years
Shireen	35	12 years
Noura	40	17 years
Niveen	42	20 years
Eman	35	12 years
Reem	25	2 years
Maryam N.	32	9 years
Afrah	31	2 years
Leena A.	41	15 years
Shouq	24	3 years
Hanadi	35	13 years
Meshael	36	15 years
Nancy	27	4 years
Haneen	24	3 years
Maali	34	10 years
Wafa'a	28	4 years
Aisha A.	34	11 years
Layla	29	7 years
Zahra	27	5 years
Ibtisam	27	5 years

Aliaa	35	9 years
Aisha M.	30	10 years
Dana	28	4 years
Maryam	28	6 years
Zainab J.	30	8 years

Table 1: List of Participants

As for the supervisors, I only secured two who were willing to participate from different educational governorates: Al-Asimah and Mubarak Al-Kabeer.

The names of the interviewed teachers have been changed. I have used pseudonyms to protect their identities. As for the supervisors, I have labelled them based on the educational district they work in. Just like the teachers, in this way their identities are protected and unknown, especially since there are hundreds of supervisors in each educational district. And there are no risks to either my interviewed teachers or the supervisors. All interview data are saved on password-protected hard disks that are only accessible to myself to protect them from being used by anyone else.

6.6 Data Collection

Before returning to Kuwait, and after passing my confirmation review, I applied to the University of Sheffield for Ethics approval, as this study is considered to be a human-intervention study. After receiving approval from the university, I travelled to Kuwait to initiate the data collection step. The arrangements for the questionnaire were easier to implement as it was all done online, and so it could be completed from anywhere in the world. This offered me much more flexibility to have it time distributed in contrast to the face-to-face interviews.

Below is table 2 showing the types of data collected.

METHOD	PURPOSE
Interview	Identify teachers' perceptions, beliefs and training regarding the use of technology in class.
Interview	Identify supervisors' perceptions, beliefs and knowledge regarding the integration of technology in class.

Questionnaire	Identify attitudes and perceptions regarding the adoption of technology and training needs across all year 1 teachers in every primary school in Kuwait.

Table 2: The purpose of each proposed method in this study**.**

The initial data collection, in terms of interviews and survey questionnaire, was conducted in December 2015 and January 2016. Follow-up interviews were then conducted in May and June 2016, towards the end of the school year. These were conducted with the same sample of teachers to investigate any changes in their perceptions, feelings and attitudes towards how technology is used in their classes. The face-to-face interviews also helped me understand how they coped with their initial concerns at the beginning of the year. As for the questionnaire, it was ongoing for seven months. I started its distribution in December and ended it in June, which is the end of the academic year in Kuwait.

6.6.1 Questionnaire

During this initial phase of the study I instigated the distribution of the questionnaire. I sent the survey out to all Grade One primary teachers in Kuwait whom I knew through a WhatsApp message. I politely explained the context of my thesis and the data I was hoping to collect. I posted a similar message on other social media platforms such as Twitter and Facebook.

According to Cohen (et al., 2018) Internet-based surveys or questionnaires predominate nowadays. Questionnaires are, in reality, surveys. Surveys are used to describe the nature of existing conditions. In research conducted within the scope of education, questionnaires are the most popular means used to collect data concerned with reactions, opinions, beliefs or motivations related to classroom learning when reaching out to a large group of participants (Rajab, 2013; Mackey, 2005). Mackey (2005) describes questionnaires as instruments that allow all participants to be asked the same questions, and they are completed by providing written answers, the use of a Likert-style scale or by selecting an answer from a list of choices. Various researchers are of the opinion that comprehensive data cannot be attained in the field of social science through the use of questionnaires. Bryman (2006) argues, however, that they can be useful when combined with other qualitative methods, such as interviews and observation, as is the case in this research. The questionnaire in this study is considered to be a source of secondary data that supplements the data collected in the qualitative stage of the study.

The questionnaire was used to address all proposed research questions based on the qualitative data findings. It is used to confirm the data relations. Cohen et al. (2018) believe that surveys are useful for gathering information about respondents' preferences, beliefs, opinions or expectations towards studied subjects. They add that Internet surveys are now very commonly used in educational research. They are the 'predominant mode of conducting surveys' (p. 361). Today, surveys can be accessed more easily and rapidly via email, websites, mobile phones or any electronic device.

Internet access and advances have moved on at a fast speed. People have much more and easier access now than ever. The Internet-based survey for this study was distributed via SurveyMonkey. It was distributed to the country's Grade One primary English language teachers, who could access the survey through a website link that was easily forwarded amongst the targeted sample via social applications such as WhatsApp, Twitter, Instagram and Facebook. The questionnaire uses closed and open questions to measure the perceptions of teachers regarding the use of technology and their rate of adoption (see Appendix 1). Social media made it easier for me to reach a larger targeted sample (Kayam and Hirsch, 2014). It was easier to distribute the survey via a message with a survey Web link attached to it. Access to online communities simplified the process of reaching a large-scale audience. A Web-based survey was selected for this study to ensure the response rate attained was the maximum possible. I designed the survey and used the SurveyMonkey website to distribute it electronically throughout Kuwait. I chose to distribute it electronically because I also believe it is a faster and easier method to gain the largest quantity of responses and a means of reaching a wider platform of targeted teachers. This is particularly true in comparison to distributing a questionnaire manually. This enabled my questionnaire to be forwarded further and for longer. Finally, no deadline was given for questionnaire completion, thus allowing the largest number of participants to complete it.

To use SurveyMonkey is not free, so I had to subscribe and pay a monthly fee to use the desired option on the site. Participants had access to the survey link at all times and anywhere, as they were able to access it through their smartphones, iPads or computers. The use of handheld devices allows individuals to connect to the Internet, thereby easing communication between people and social circles. Additionally, even people who do not necessarily have a data plan with their mobile phone provider could access it via Wi-Fi at home or at any hotspot. The Internet has spread widely, coverage is now common globally. In the case of Kuwait, coverage is now countrywide. Hotspots are available to use free for a timed limit in most public spaces. The issue of being connected is thus not a barrier for Internet-based questionnaires. Moreover, the questionnaire allowed the data collection process to be conducted more speedily. As mentioned previously, the link could be sent to participants

electronically rather than manually or through the post (Robson, 2011), which saved the researcher time while simultaneously allowing the researcher to potentially receive more responses.

One of the main advantages of using questionnaires is their ease of distribution. The ability to distribute them electronically is an advantage that granted the data-gathering process a high level of flexibility (Robson, 2011). Another advantage is the low cost, especially when conducted over the Internet. Distributing the survey over the Internet was also considered economical as money was saved that would otherwise have been spent on paper, printing, envelopes and postage stamps (although I did pay for a Web-based survey subscription). Speed, access and convenience are the main advantages. The Internet allowed the questionnaire to reach a wider target population whilst also affording participants a faster means of responding to the survey at a time that was convenient for them. Wider access ideally results in a higher number of participants, which in return offers better generalisability of the results. A survey can be available online for a long period and circulated within communities through social media. My survey remained online for a long period and hence it was able to reach targeted teachers in all of Kuwait's educational governorates. This was further supported by its distribution via social media. Web-based surveys are considered more reliable as there is no room for human error that might result from the manual entry of data associated with paper-based surveys. Moreover, online surveys are believed to generate more honest results because of the anonymous nature of the respondents. The lack of face-to-face interaction yields more honest answers (Cohen et al., 2018; Kayam and Hirsch, 2014).

On the other hand, there are some disadvantages to the use of Internet-based surveys. If distributed via email, an email can be diverted to a recipient's spam mailbox and consequently be ignored and not seen. Because of the lack of face-to-face interaction with someone regarding the survey, this means that the instructions to complete the survey need to be very clear, otherwise this could deter a respondent from continuing to complete the survey and result in either questions being skipped or the process just being stopped and a completed survey not submitted. This is another problem researchers face with online-based surveys. The researcher cannot ensure that participants will complete or not quit midway through answering the questions. Moreover, this is associated with another negative characteristic; the responses submitted may be low compared to the number of respondents who access the survey. Reasons for this include the boredom that may ensue through having to complete a long questionnaire. This is overcome on SurveyMonkey, as it has a feature whereby questions can be skipped based on the respondent's choice. In this way, the respondent has a choice and they may choose to skip certain questions rather than quitting the whole questionnaire without providing any data.

Moreover, sending the survey as a downloadable file is also a major disadvantage, as the downloaded file can crash devices or be too large for respondents' devices. This is avoided when Web-based surveys are used, because they do not need to be downloaded but can be opened online. Moreover, it is advised to avoid forced responses as they may put off respondents and leave them frustrated, which may result in the respondent quitting the survey (Cohen et al., 2018; Dillman, 2014). Using Web-based surveys make it easier for the participants to access them as well as ensuring no formatting is applied to the file once opened to adjust to the choice of user's platform. A document can, for example, have its margins and fonts altered to accommodate the device it is opened on. To eschew that, Web-based surveys are, in my opinion, the most convenient option. This is particularly true as this study is also dependent on social media communities. People tend to access social media applications on their mobile phones. Therefore, Web-based surveys are the safest choice, as the SurveyMonkey website is set up to have its webpages opened on mobile phones, thus ensuring the survey is displayed in a neat and not messy manner that is compatible with any Internet browser on electronic device used.

Mackey (2005) argues that questionnaires should be written in the participants; native language if possible, so that participants can understand the questions and the lack of second language proficiency is not an issue. This also avoids the issue of inaccurate answers being given due to a language barrier. In the case of this research, translating the questionnaire into Arabic was unnecessary because my sample was made up of English language teachers, who are able to understand the language because of their proficiency in English. Thus, I chose to keep the questionnaire in the English language.

A few points had to be taken into consideration while designing the questionnaire. As Brown (2002) suggests, the questions need to be unambiguous, easy to answer, and neatly and simply formatted without looking busy or disorderly. Easy-to-complete surveys help to improve the response rate (Cohen et al., 2018). Moreover, there should be no embarrassing or biased questions, nor any misleading questions. Questions need to be comprehensible with no ambiguity or in-between answers. Avoiding so-called 'double-barrelled' questions, where more than one aspect is asked about in a single question, is also essential (Cohen et al., 2018). Bell (2010) also states that the layout of a questionnaire is very important, as it is the participants' the first impression that gives them the principal motivation to complete it. In line with Bell, Robson (2011) and Cohen et al. (2018) also state that short simple questionnaires are the most effective. Furthermore, researchers need to have a clear purpose for their enquiry and plan it out carefully. This ensures participants do not lose interest in completing the questionnaire, and in return the researcher will gather more data. With this in mind, the questionnaire for this study was a short questionnaire with a mixture of open and closed questions. It was designed in this way to encourage participants to complete it and not quit half way through out

of boredom or disinterest. I strove to ensure that the questions were always clear and unambiguous, too. The layout was kept simple and easy on the reader's eyes (see Appendix 1).

Taking into consideration the fact that there was no interaction or face-to-face contact with the researcher, the questionnaire needed to be self-explanatory (Robson, 2011). A cover or introductory letter had to precede the actual questions to inform participants about the purpose of the study and explain to the reader the data to be collected via the survey. This also stipulated that all responses would only be used for the purposes of research. The introduction letter clarified too the need to answer all questions. The researcher's personal email address was included in case participants wished to make any further enquiries. The participants were also thanked for their time. All these details were written as an introduction in a text message that was forwarded via social media. Attached to that message was a Web link to the survey. By the time I started the questionnaire analysis, I had a total of 225 survey responses.

6.6.2 Interviews

Because of their flexibility, interviews are amongst the most widely used and most useful methods of data collection (Bryman, 2012, 2006; Cohen et al., 2018; Creswell, 2013a; Creswell and Clark, 2018). As Rajab (2013) states, 'Interviewing is an important qualitative data collection method which can be effectively used for exploring and describing educational problems and practices' (p. 83). As a researcher, interviews allow for a more comprehensive examination of the subject with the interviewees which would otherwise not be possible (Robson, 2011). Strauss and Corbin (2015) state that pre- and post-interviews can be used until the data start to reach saturation. Concurring with Cohen et al. (2018), the purpose of using interviews is to facilitate the understanding and evaluation of situations, as well as learning about respondents' opinions vis-à-vis the explored topic.

As structured interviews can be too restrictive, semi-structured interviews were chosen for this thesis. Semi-structured interviews are more flexible and give the interviewer and interviewees more space to investigate issues related to the main subject under discussion (Bryman, 2012). Semi-structured interviews are a useful means for researchers to investigate what they do not know, which also allows them to rely on their interviewees to inform them (Cohen et al., 2018). Robson (2011) explains that semi-structured interview guidelines are set by the researcher and cover the topic(s) they want to discuss. A semi-structured interview gives the interviewer the choice of modifying the wording and sequence of questioning based on the way the interview itself is going. More importantly, it allows

for the inclusion of additional unplanned questions as and when the interviewer finds this appropriate. This gives the researcher further scope to probe deeper into certain interesting points that may surface during the interviews with the teachers. This advantage is attributed to the flexibility afforded by semi-structured interviews. I had the freedom to move around points that I found irrelevant, and at the same time I encouraged the teachers to elaborate further on relevant points. Being able to lead the path of the interviews ensured that I was able to keep the interviewees on track, ensuring they did not drift away from the topic being discussed. In line with Cohen et al.'s (2018) advice, I prepared open-ended questions to elicit data for my research questions. Although I had set questions to ask, I did not have to adhere to the exact wording every time, nor follow the exact sequence. As Wellington (2015) proposes, despite the fact that the questions are pre-set, they can still be re-worded. Therefore, the interview questions were not fully predetermined.

The interviewer has control over how the questions are worded, which ensures an interviewee is able to comprehend the questions. Despite this, it is the responsibility of the interviewer to ensure that, by the end of the interview, all questions have been addressed. The flow of an interview typically depends on the interviewee's responses. Additionally, this affords the interviewer the freedom to probe further into what they find interesting and want to know more about by conversing with the interviewee to elaborate further in discussion. Interviews are a beneficial tool to explore a topic in a conversational manner whilst trying to always stay on topic and not stray away from the subject.

The aim of the interviews was the identification of barriers and enablers that teachers face in schools and their classes. The questions also related to their use of technology and the way they integrated technology into their teaching practice. The questions sought to understand the teachers' knowledge, preparations and perceptions towards the use of technology in their lessons (see Appendix 2). Follow-up interviews further explored any issues that needed to be examined in more depth, as well as asking about any changes or barriers overcome. This allowed me as the interviewer to further examine any point that was overlooked. In addition, I was able to follow through on any changes or developments that may have occurred. Moreover, it allowed me as the interviewer to contemplate with the teachers, to reflect, comment and evaluate, by examining the way they used a certain type of teaching technology during their lesson. As the interviewer, I was careful not to be intrusive, offensive or judgemental towards my participants. Instead, I urged them indirectly to open up to me, trust in my confidentiality and reveal how they were feeling while reflecting on the position they were put in without the necessity of being courteous towards their school administrators or supervisors.

The flexibility and adaptable nature of interviews as a data collection tool allowed me to gather a larger amount of data, as well as granting me the opportunity to enquire into the details around my

topic. They also have an important advantage over questionnaires. Unlike questionnaires, the researcher can follow up with the participants. However, conducting interviews is very time-consuming and interviews generate enormous amounts of data. Further, the time spent setting up an interview to suit both parties is tedious, and it can take a long time to conduct as well. Additionally, the use of a recording device can intimidate the interviewee and therefore affect their answers. The knowledge of being audio-recorded may prevent interviewees from feeling sufficiently relaxed to answer freely as they may have a fear of being judged (Wellington, 2015). Recording was essential, as it preserved the language employed and ensuing conversation. I recorded the interviews rather than taking notes for two reasons. The first was to have an objective record of what was said. Taking notes slows down an interview may lead to the researcher missing words spoken. Slowing down an interview may also annoy the interviewee, as it lengthens the interview's timeframe, as writing takes longer. Having an objective record, later transcribed, ensures that no information is missed regarding the topic being discussed. The second reason is that this technique gives the interviewer the liberty to talk and concentrate on questions and answers rather than being occupied with note-taking.

For the follow-up interviews, the WhatsApp application was used because it was easier to fit into the interviewees' schedules as well being a very commonly used application between all teachers in Kuwait. Using WhatsApp reduced any travel time or setting up of appointments with the respondent. This avoided the interviewees feeling burdened from having to fit interviews into their schedules a second time, especially since the follow-ups were conducted towards the end of the school year. This is a period when teachers are generally busy with end-of-year exams as well as wrapping up the academic year. The follow-up interviews were naturally shorter regarding the number of questions asked, which made it even more convenient to conduct them through WhatsApp. I still preferred to use video calls when permitted by the interviewees as I believe it grants more familiarity to both of us to converse in more depth together. But that was not the case for all teachers, as some interviewees felt intimidated being on video, given the cultural interdiction of not being completely relaxed with someone they are not very familiar with on video. This was further exacerbated by some teachers not wearing a hijab and consequently feeling uncomfortable being on video without one on. To ensure the teachers were as content and relaxed as possible, they were given the choice of whether they wanted to have an audio or video call via WhatsApp.

During both the initial and follow-up interviews, the interviewer must also be careful not to let the interview run on for too long a time, as this may bore the interviewee. On the other hand, if the interview is too short it may not yield enough significant data (Robson, 2011). The interviewer must also ensure that they stay on topic, or else the time and data will be wasted and not useful.

When I first met the interviewees, I started with small talk, introducing myself, talking about my study and what I was aiming to achieve. I told them about my background and asked them about theirs as well. This small talk was aimed at placing the teachers in a more comfortable position. It gave them a sense of why I was there, and that I was not only after data, that I did genuinely care about how they felt and what they had to say. That was a good ice-breaker prior to going into the formality of asking them to read and sign a consent form I had to use as supplied by the University of Sheffield, in addition to making them feel at ease and not intimidated once the voice recorder was on.

As the interviews were carried conducted on school premises based on the teachers' preferences, I asked to use empty classrooms to sit and chat together, rather than be in the English language department to avoid any interruptions or distractions. This ploy also gave the teachers the liberty to talk freely and not feel self-conscious about their colleagues listening or judging what they had to say. Having a private session with each interviewee made the interviews less intimidating and gave them as much time as they needed to answer and express their opinions.

Because all data were recorded, I chose to transcribe all the interviews before starting to code the data based on Richards' (2003) recommendation that to conduct any appropriate interview analysis, the content must first be transcribed. Moreover, I wanted a full set of interview transcripts to reflect on prior to starting the coding process. I did not want to miss any points made, thus ensuring that I examined the whole picture for each interview conducted, hence transcribing the interviews is a vital step towards analysing them. All the interviewees spoke in Arabic and switched into English from time to time. That was not an issue as I am myself bilingual, so there was no language barrier in understanding them. That said, the transcribing process was not an easy one. Words in the recordings are not always as clear as they were heard during the interviews themselves. It is hard to catch the spirit of their tone and emphasis. Moreover, after transcribing the interviews in Arabic, I was tasked with having to translate the transcripts into English. This was a challenging translation process as it involved not only translating words from Arabic into English but also the need to not lose the essence of what was said when putting their feelings into written words. Inevitably tones get lost once they are put into a written format, but I tried my best to convey feelings by placing reactions or expressions in-between brackets, such as any laughter for example, while I also used […] for pauses. I decided to do all the transcription and translation myself based on Mertens's (2014) guidance, where she rationalises that this step constitutes part of the data analysis itself because the researcher interacts with their data in 'an intensive and intimate way' (p. 438).

Once completed, the transcripts were double-checked to ensure I had not missed or misheard words. In the case of this study, I had to go over the transcripts more than once. The first time was to check the Arabic transcripts against the audio recordings to ensure no words had been skipped or missed. The second time was to check the Arabic transcripts against the translated versions. I also had to check the accuracy of the transcripts once more. This was not easy, given that English is not my native language. The primary challenge was to avoid losing meaning through translation from one language to another. To assist me in transcribing all the audio files I had recorded, I chose to use an application called Transcriptions. I uploaded my audio files to the application, which then gave me the option of listening to the recording at a speed of my choosing while listening and typing in the written language simultaneously. The typed file was then saved as a Microsoft Word document. One dilemma faced was whether to transcribe by providing a literal interpretation or interpreting the meaning construed. I opted for the latter, to translate the meaning, because if translated literally, most of what was translated would not have made much sense any longer. Bailey (2008) explains that translated 'transcripts are not therefore neutral records of events, but reflect researchers' interpretations of data' (p. 129). This indicates that there is some level of interpretation of data already happening during the transcribing and translating process. Due to the large number of interviews collected, the transcribing and translating process took over a year to complete before they were ready to be coded and analysed.

6.7 Data Analysis

A mixed methods approach allows data to be analysed separately and then merged together. Creswell and Clark (2018) classify data-merging in three ways: convergent design, explanatory sequential design and exploratory sequential design. In the convergent design, each data set is collected and analysed separately. Ideally, the researcher emphasises the different sets of data equally. But they still can vary, as the qualitative data can be prioritised or vice versa. Then one data set is presented and its findings are supported with the other set. In the explanatory sequential design, both data sets are related to each other and are not independent. The idea behind the approach is for the researcher to combine the data collected into one single image that explains the study's findings and themes. The data are joined together as no data stand alone. Finally, in the exploratory sequential design, the researcher starts with qualitative data, analyses them, then uses the results to develop quantitative material to be used for a second phase of data collection.

I chose to follow Creswell and Clark's (2018) convergent design and analyse each set of data I had collected separately. This was followed later by an examination of the data in parallel to determine the degree to which they converged and supported each other's findings. Generally, however, as stipulated by Creswell and Clark (2018), I prioritised my qualitative findings over my quantitative findings. I believe the qualitative data are deeper and more informative, but nonetheless I still find the quantitative data valuable as they enabled me to triangulate my findings.

6.7.1 Questionnaire

As for the quantitative data, the questionnaires results were analysed to produce descriptive statistical numbers via the SurveyMonkey website to complement the qualitative data. Survey Monkey is an online survey tool on which ready-to-use templates are available. The questionnaire utilised in this study was constructed using one of their templates and this was used to gather information needed from the target sample. The survey was distributed in a Web-based format with a link that could be accessed via the Internet and easily viewed and adjusted to suit any connected Wi-Fi device. As a researcher, I have found SurveyMonkey is user-friendly when creating a survey and has ease of implementation.

To ensure the respondents completed the survey and did not abandon it midway I aimed for the survey to be no longer than 5 minutes in duration. The design of the survey was easy to follow and answer. This ease helps to avoid making the respondents feel overburdened by the survey, which might lead to them quitting it.

The website analysis facilities were used in this case and I did not export the collected responses to any other software to calculate the results. I felt confident in the results as Bentley et al.'s (2017) study found that SurveyMonkey analysis had the power to produce graphs of the data. In addition, it took less time to produce accurate reliable data.

The site calculated every question separately. It gave me insights into the overall response in a clear format of my choice. Scrolling through the survey analysis, I was able to look at the questions and numerical results for the answers separately. For multiple-choice, check-box and Likert-style questions, the survey calculated them as closed-ended questions based on the SurveyMonkey website's weighted average scale, as explained in Figure 4 below:

The rating average is calculated as follows, where:

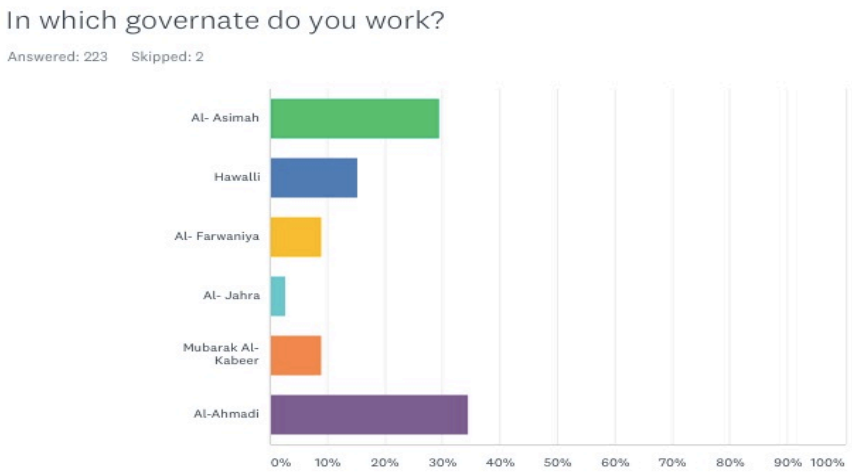
w = weight of answer choice

x = response count for answer choice

$$\frac{x_1w_1 + x_2w_2 + x_3w_3 \ldots x_nw_n}{\text{Total}}$$

Figure 4: SurveyMonkey Weighting Scale

The website then allowed the selection of a suitable form of data presentation. The choices vary in terms of graphs, tables and charts. They all also include percentage averages as well. An example of the results for this type of question is shown in Figure 5 below:



ANSWER CHOICES	RESPONSES	
Al- Asimah	29.60%	66
Hawalli	15.25%	34
Al- Farwaniya	8.97%	20
Al- Jahra	2.69%	6
Mubarak Al- Kabeer	8.97%	20
Al-Ahmadi	34.53%	77
TOTAL		223

Figure 5: Example of SurveyMonkey Bar Graph Data Representation

The website offered the option of examining answers to open-ended questions in a word cloud format. A world cloud is a computer-generated system which catches patterns of repeated words that are placed in a list and indicates their reoccurrence chronologically. It also calculates the numerical percentages of reoccurring words. Although this is a helpful option, it is not one I chose to fully rely on. This was because of the inability of the software to comprehend synonyms and spelling mistakes,

as previously mentioned. Therefore, I went through the answers myself in list view mode and read the answers manually. An example of the results is shown in Figure 6, below, which illustrates how the website software differentiated between *smartboards* and *smart boards*. The website considered them as two different reoccurrences, when in fact they referred to the same item, just typed differently.

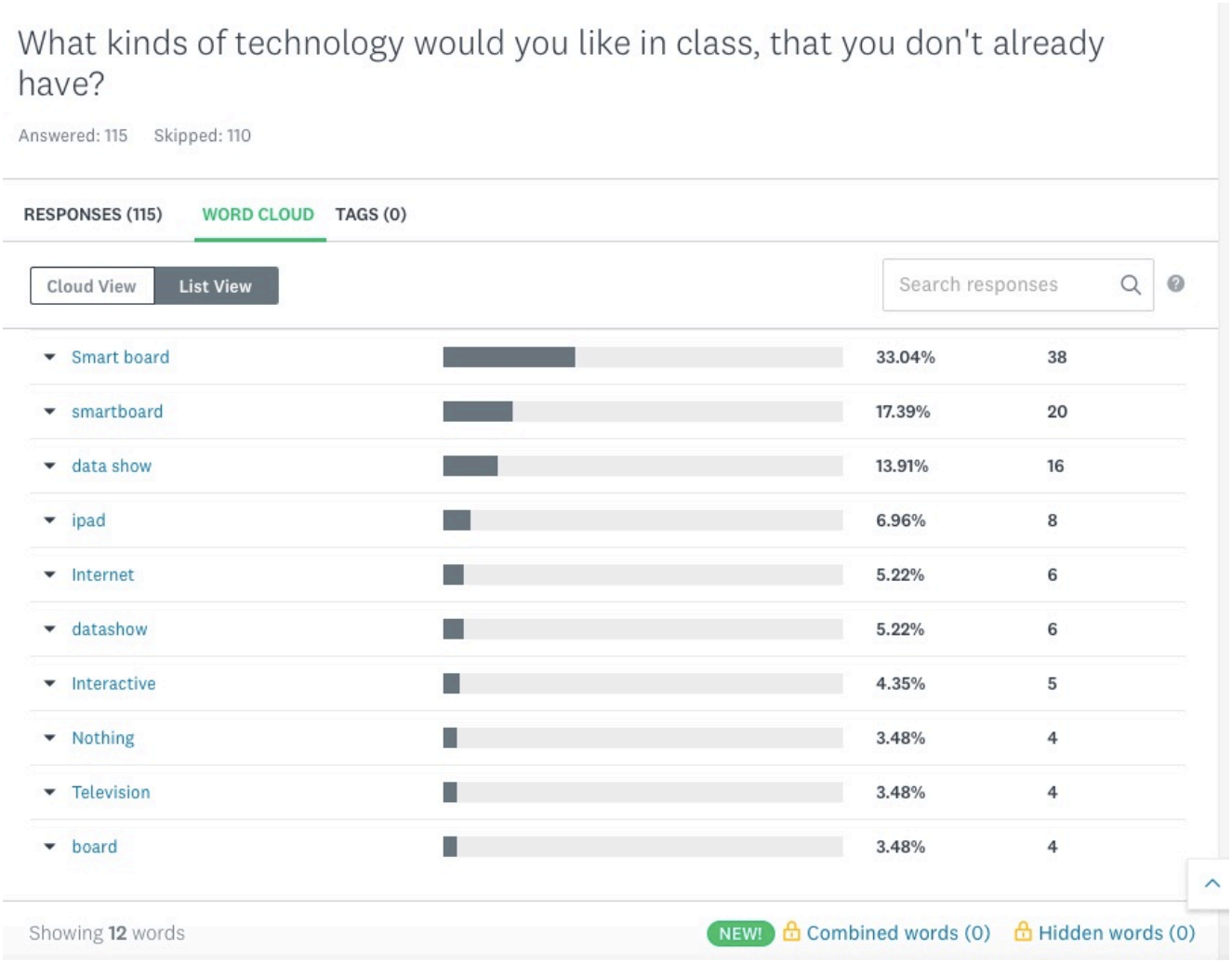


Figure 6: Example of SurveyMonkey Word Cloud List View Results

The data collected through the survey were intended to support the analysis of the level and pace of adoption of technology between English language teachers. The data were discussed by comparing them to the qualitative findings. I grouped the results of the survey questions to correspond with the qualitative data set themes. I compared the findings of the survey's quantitative results to the qualitative ones to support the interpreted discussion of data.

6.7.2 Interviews

Braun and Clarke (2006) argue that thematic analysis is the foundational analytical method for

qualitative data. Although there is no agreement as to what thematic analysis is, nor if there is a standard way of doing it (Attride-Stirling, 2001; Strauss and Corbin, 2015), Braun and Clarke (2006, p. 79) define thematic analysis as 'a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail.' This methodology, therefore, captures the core skills needed to conduct any form of qualitative analysis. Its main advantages are its flexibility, simplicity and accessibility. However, the flexibility of the method and its capacity to analyse a wide range of data can be confusing to new researchers who may be undecided as to which aspect(s) of their data to focus on.

Braun and Clarke (2006) argue that because thematic analysis does not dictate a set analysis process as found with other methodologies, it should not be considered a stand-alone analysis method. However, when one looks closely at various methods, such as narrative analysis or grounded theory, it is clear that their basis is thematic but with a different label. Thematic analysis is the process or manner in which a researcher looks for specific themes and patterns within what they have collected in each data set, while avoiding the selection of individual data items. Because it is not tied to any one theory, thematic analysis can be used with all theoretical frameworks. It does not involve or require a deep theoretical knowledge of approaches such as grounded theory, and as a result it is particularly beneficial for researchers with little experience.

A theme is an emerging pattern within a data set that is related to the research questions. The target sample size is not set in this type of data analysis and there is no association with the amount of attention dedicated to the theme, nor the number of reoccurrences. This is left for the researcher to determine, also what they consider to be a theme in their work.

As this research area has received little attention in Kuwait, the views of the participants at the time of data collection were unknown. The data were analysed to provide a rich thematic description of the findings. Themes were identified through an inductive approach. This was achieved by searching for 'emerging' codes that were later categorised into themes. The themes were not previously defined codes, nor were they based on the preconceptions of the researcher. The data gathered through the qualitative data collection methodology were then analysed in a data-driven manner. In summary, as Braun and Clarke (2006, p. 86) note, 'thematic analysis involves searching across a data set – be that a number of interviews or focus groups, or a range of texts – to find repeated patterns of meaning'. Qualitative research, in contrast to quantitative research, allows the researcher to inject their own personal experiences into the findings, in addition to comparing findings to other studies previously carried out (Creswell and Clark, 2018).

The data were analysed following the advice of Braun and Clarke (2006), as shown in Table 3 below, with the help of the computer software NVivo. Computer assisted qualitative data analysis software (CAQDAS) makes it easier to organise and manage data systematically in one place (Cohen et al., 2018).

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Table 3: Phases of Thematic Analysis (Braun and Clarke, 2006, p. 87)

6.7.2.1 NVivo

Using any kind of CAQDAS does not eliminate the researcher. The researcher is always the main tool for the analysis. The software only assists in the process, it is not capable of performing the analysis or coding itself. NVivo was the software employed to help organise the codes and themes (Hilal and Alabri, 2013; Cohen et al., 2018). Using NVivo helped place the data generated under coded headings and subsequently allowed the manipulation of the data into themes.

I started by reading all my data to understand and reflect on what was said in general. I later imported word files in which the English transcripts were saved to NVivo for analysis. This was the point of initiation of the data coding process. Coding, according to Creswell and Clark (2018), is the 'process of grouping evidence and labelling ideas' (p. 214) so that the codes can be reflected as broader perspectives of the themes set later. The code labels are created by the researcher and later grouped into themes. Themes can be grouped into broader themes if required. Themes are related to the theoretical model chosen during the discussion of the analysis.

The analysis in this study was carried out through discussion of themes and their supporting evidence. The main concept was to 'build a discussion' (Creswell and Clark, 2018, p. 215) of set themes to emerge from the data. Strategies to discuss and prove ideas includes citing evidence from data with

rich descriptions that are in line with the set themes. The outcomes of the study were then confirmed by employing evidence from multiple individuals. This is in addition to comparing to the findings of other related published studies. In line with Welsh's (2002) advice, I started developing codes after reading through all the data. This was a necessary step to gain an idea of the emerging and recurring codes. This made it clearer for me as to what issues were repeated throughout the transcripts.

CAQDAS was the method I selected to sort the data into an organised form because of the large volume of data involved in the study. It also made it easier to examine the chosen codes rather than examine them manually. As previously mentioned, the English transcript files were coded in NVivo which allowed me to examine the codes in the window above as they were created, as shown in Figure 7. The software enabled me to highlight chosen text and drag it to the corresponding code. NVivo was very helpful in the coding process. Although NVivo is more accurate because it overcomes human error by facilitating the search for keywords by doing it electronically, it is not capable of finding synonyms for those keywords (Welsh, 2002). Thus, this necessitates examining each file individually to ensure no data are missed in the process. Nonetheless, the organisational advantages NVivo granted outweighed this disadvantage.

Once I completed coding all the data, the codes were then grouped into tree nodes (see Appendix 3). Tree nodes are equal to themes. Themes were chosen to address the research questions in the chosen theory parameter. As nodes were created, relevant codes were grouped into tree nodes.

The coding methodology employed in this part of the study followed Leech and Onwuegbuzie's (2011) constant comparison analysis. Examining the transcripts allowed the highlighting of relevant text, which was subsequently dragged and dropped onto the applicable code. NVivo software uses nodes, tree nodes and free nodes. Nodes in this context refer to codes. This is where I created meaningful parts of the interviews based on corresponding codes. If I came across data that had no relevant code, I could easily create a new code for it. The same process was followed for each and every interview. Once I completed all the coding, I looked at the nodes I had assembled and grouped the ones that were connected to each other in content into a tree node to create a theme. The themes were chosen to address the research questions in the chosen theory parameter. Those that did not fit into a tree node are referred to as free nodes. The final step was aimed at persuading the reader of the authenticity of the analysis. This was achieved through discussion of the themes identified in a narrative manner with supporting evidence from the data generated and comparing this to other published studies.

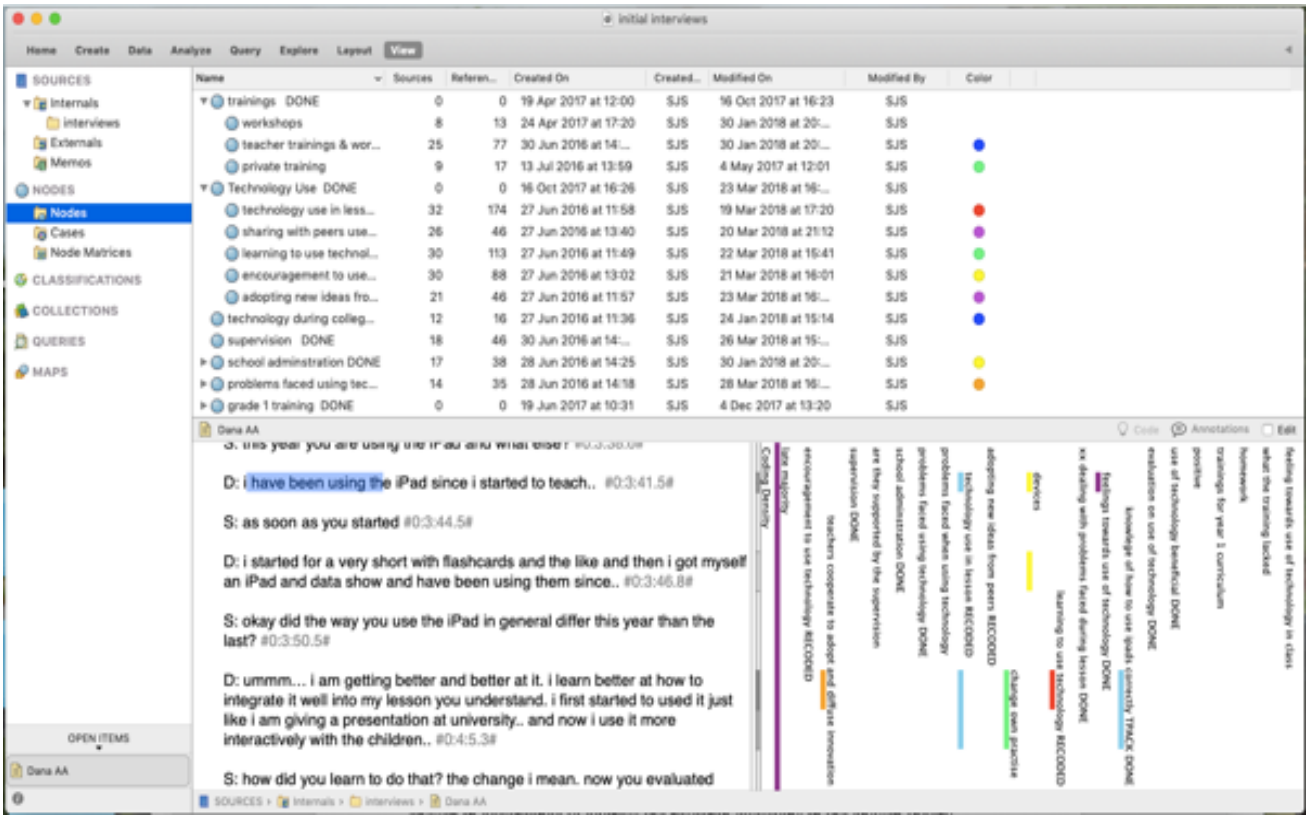


Figure 7: Coding with NVivo Software

6.7.3 Triangulation

Triangulation is a process that 'involves corroborating evidence from different sources to shed light on a theme or perspective' (Creswell, 2013a, p. 251). Using mixed methods can help to cross-validate the results of the various instruments used, which can increase the research's validity by triangulation (Tashakkori, 1998; Bryman, 2012). Cohen and Manion (2001) state that the use of triangulation in social sciences provides a fuller explanation of the richness and complexity of human behaviour by looking at it from more than one viewpoint. Both methods can be used side by side in research (Wellington, 2015). Wellington (2015) explains that using both these approaches does not cause conflict, as the two data collection methods complement each other by finding evidence from different sources of data to prove the reliability of an analysis code.

Specifically, this was the reason behind the selection of the two methods as through their comparison the rate at which teachers assimilated technology in their classes could be measured. Moreover, this also allowed the identification of barriers to and enablers of the integration of technology. To triangulate in mixed methods is to use both qualitative and quantitative methods. As a researcher, I believe it helps to generate valid knowledge. Triangulation is a process in which new-found knowledge is tested for its validity and reliability. It checks the quality of collected data and the

results. It is also a procedure to check the reliability of the researcher's interpretation of the data results (Creswell and Clark, 2018). Triangulation helps with validating interpretivist explanations of qualitative data. Thus, triangulation can increase one's confidence level in findings. Moreover, it can involve converging qualitative data with quantitative numerical data.

As Robson (2011) expresses, far from being incompatible, combining methods gives good outcomes. He further adds that over-dependence on a single method can bias the data produced. Cohen and Manion (2001) extend this by explaining that the more that methods contradict each other, the more confidence the researcher will gain in their work. According to Stake (1995), triangulation opens up the chance of increased precision and the attainment of a range of explanations. When designing a concurrent triangulation design, each method used within a study is employed separately. The results are then compared to ensure validity and a deeper understanding (Robson, 2011). Although qualitative and quantitative methods differ in their procedures, they are still equal in their methodological value (Wellington, 2015). Using both methods in an investigation can increase its validity (Flick et al., 2004). Denzin (1978) notes that 'methodological triangulation involves a complex process of playing each method off against the other so as to maximise the validity of field efforts' (p. 304). Triangulation does not only aid in the validation of results, it also aids the researcher in developing a deeper understanding of the topic. So, triangulation is used not only to validate, but to also add further depth to knowledge and a clearer understanding.

In this study, I have used methodological triangulation by contrasting methods to address the same issues. This allowed cross-checking and therefore subsequent validation of the results. Methodological triangulation occurs when either: (a) the same method is used on different occasions, or (2) different methods are used on the same sample of a study. The more the methods contrast with one another, whilst producing same results for the same research question, the more confident the researcher will be in their findings (Cohen et al., 2018, p. 265). Either way, regardless of the methodology used, the study was conducted to answer the same research question and to build coherent justifications for the chosen set themes. When converging the analysed outcomes, this process added validity to this thesis (Creswell and Clark, 2018).

As Creswell and Clark (2018) explain, when using a mixed methods approach, quantitative and qualitative data are gathered separately. At the end of the data collection process, the data sets are then related to each other. The key to this approach is to provide separate data that will ideally be comparable to and support each other, although in some cases they do contrast with each other (Creswell, 2009, 2013b). Although data are often collected separately, they are usually collected in a parallel manner (Flick et al., 2004). Therefore, in the case of this study, the questionnaire was

circulated at the same time that the interviews with the teachers were initiated. According to Creswell (2013b), a mixed methods approach starts with a broad questionnaire, which subsequently allows generalisation of the results. It then focuses on qualitative open-ended interviews to explain and support the initial survey.

Primarily, in this study, the qualitative data are of greater significance, while the quantitative data are of somewhat less importance. The quantitative data are secondary and are used to support the qualitative findings. This allows triangulation of the results, thereby increasing their validity and allowing a more comprehensive understanding to be derived from the qualitative data.

However, there are a number of disadvantages in using triangulation or mixed methods to collect data. For example, the researcher needs to have equal skills and training in the data collection techniques used. In reality, researchers almost always feel more comfortable using one method than the other (Robson, 2011). Another issue concerns timing. Each method requires different amounts of time to complete, one being more time-consuming than the other. With respect to this study, the questionnaire was regarded as the methodology that would require a greater amount of time—for the collection of quantitative data. However, the qualitative data, the interviews, would be collected in two separate stages, in the second quarter of the academic year, and then in the fourth quarter, close to the end, of the academic year. The opposite is true for the analytical steps. Here, the quantitative data did not require as much analytical effort in comparison to the qualitative data analysis, as the findings were calculated using the website chosen for the questionnaire itself. The qualitative data, on the other hand, had to be transcribed, translated and then coded to allow analysis.

Mason (2006) argues that while a mixed-methods approach has a number of advantages, it can be very challenging to the researcher and cause them to lose focus. The researcher must, therefore, have a clear, logical idea of what it is they are trying to achieve when choosing a research method. They must also be sure that the data they collect can be linked together after being analysed.

There are a couple of possible outcomes that a mixed methods approach may generate. The findings may converge with one another, meaning the quantitative data will validate the qualitative data. Another possibility is that the quantitative data will complement the qualitative data, which again will validate the data. In this thesis, the quantitative data were used to supplement the qualitative data findings and validate them. The qualitative data allowed for a deeper explanation and understanding of sociological patterns, while the quantitative data produced basic variables across a demographic platform. Another possibility is that the quantitative data could contradict the qualitative data by diverging from each other (Flick et al., 2004).

All research results are beneficial to the research process. All data gathered through a mixed methods approach result in the study having greater explanatory power and validity, which could not be obtained if the study only relied on the collation of one set of data. Choosing the types of methods to 'mix' depends on the nature of the research itself, the subject being investigated, and the theory being applied.

In contrast, Richardson (2000) finds that crystallisation has deconstructed the idea of validating data. She describes her belief that 'In postmodernist mixed-genre texts, we do not triangulate, we crystallize' (p.934), arguing against the more traditional view of validating texts. This is discussed in the following section.

6.7.3.1 Crystallisation

The postmodern notion of crystallisation was put forward by Laurel Richardson (2000), who describes crystallisation as the observation of a single set of data whilst filtering them through a prism and coming up with various ways to present that particular data set. She explains that 'there are more than "three sides" from which to approach the world' (p. 934). She likens these to crystals, because crystals grow, change and alter in their appearance. Thus, various perspectives may be used to interpret data. She believes that data results are never viewed directly as a set, rather they are viewed through a 'prism' which changes with the angle from which you observe (Denzin, 2005; Stewart and Gapp, 2017).

Though she sees crystallisation as providing more profound meaning, it actually only provides a partial understanding of the proposed researched topic. There is always more to know, there is no knowledge that is set. Ellingson (2009) supports this by describing crystallisation as being 'informed by postmodernism'. That is, it does not assume that a truth persists that one can seek or reach (p. 22). She sees data as producing multiple as well as partial truths that researchers construct, and the reader or viewer of these studies co-constructs these. Ellingson (2009, 2014) repeatedly embraces Richardson's views on the concept of crystallisation and describes it as being a form of analysing data in multiple forms and genres. Ellingson (2009) has taken Richardson's (2000) description of crystallisation as producing multifaceted interpretations and supported it by proposing that crystallisation affords 'power in analytic, narrative/ artistic, critical genres' (p. 8). Crystallisation emphasises the use of different forms in representing data; in poetry, essays, performances, various art forms or narrative writings. Therefore, Ellingson (2014; 2009) acknowledges that crystallisation

'requires a wide range of skills' (Ellingson, 2009, p. 13), skills lacking in the majority of researchers. Crystallisation depends on the weaving and blending of data to express the researcher's findings (Ellingson, 2014). Richardson (2000) is of the opinion that the outcomes of crystallisation are best written in the form of any literary narrative or artistic form chosen by the scholar, leaving the reader or viewer to then form their own opinion of these findings. Each research finding is not founded on a single truth, instead a plethora of outcomes exist. Thus, unlike the one big truth that may be generalised by a positivist, what exists is a small case or dimension of the truth.

Ellingson (2009) and Richardson (2000) believe that the only instance where crystallisation does not occur is in relation to positivism. They deem crystallisation to be usable by any scholar in attempting to attain their objectives, except for positivists, who they believe would not use it. As positivists believe in objectivity and established 'universal truths', they are not then able to present their data in a manner that does not provide defined set answers to their research questions. Crystallisation brings out data in a manner that is supportive of "both/and" and refuses "either/or" results (Ellingson, 2014). Whilst there are attractive aspects of the concept of crystallisation, I still find triangulation to be the most appropriate concept in relation to my study, given my philosophical stance, as outlined at the beginning of this chapter.

6.8 Ethical Considerations

As a researcher, it is crucial to ensure no participants are harmed by participating in my study. Furthermore, it is essential that the participants are not misled regarding the target of the research. The intentions of the research were explained to the participating teachers clearly and carefully at the outset. When I first met my participants, they were kindly asked to read a participant information note (see Appendix 4), which explained the study they were taking part in. The research goals were explained in various ways, both written and verbally, thereby ensuring that the participants were fully aware of the study and what it entailed and aimed for. They were informed that anything be said or done during the interviews would remain confidential, and that their names and identities would remain anonymous and protected. They were also informed of their right to withdraw at any time during the research, should they change their mind, and without having to give any reason. They were then asked to read and sign a consent form to ensure they had understood what they had been told and confirm that they were willing to participate. I used a consent form authorised by the School of Education at the University of Sheffield (see Appendix 5). The names of the participants are changed in this study to protect their anonymity and confidentiality.

The decision to use an audio recording device and not video helped the teachers/ participants feel more relaxed and not threatened. Video is more intimidating to humans in nature. My aim was to put the participating teachers at their ease, so I spoke with them prior to starting the interview to clarify that I was not in a position to judge them or criticize them as a person or as a teacher. I tried to befriend them a little before starting the interview sessions by encouraging general social talk that helped to break the ice between us. Consequently, this resulted in them feeling more at ease and created a relaxed atmosphere. As for power stance, I talked about my previous experience in teaching at an elementary school and once being in their shoes. With all this I hoped to show them that I was not above them and but aimed to help them in whatever way I could, and that I would also hopefully help them in meeting their proposed targets from the Ministry of Education. I was there, equal to them and helping them identify 'holes' or gaps that needed to be filled or fixed.

Most of the teachers wanted to conduct the interviews during school hours at their schools. Consequently, in keeping with ethical standards, I sought the correct permission to gain access to the teachers at school. Accordingly, I followed the guidelines set by the Ministry of Education to apply for an official approval letter signed and stamped to access the schools under their umbrella. My journey started by getting an official letter from The Public Authority for Applied Education and Training (PAAET). I also chose to include a personal letter where I explained my study and its objectives, the target population I was hoping to research and a letter from my supervisor at the University of Sheffield.

I went to the Educational Research and Curricula Sector with the aforementioned papers to attain an individually addressed letter to the head of each educational district I was going to access, in this instance: Al-Asimah, Hawalli, Mubarak Al-Kabeer and Al-Farwaniyah. The letter stated my name, my position as a PhD student-researcher and the topic of my study, and explained that I was granted approval to interview English language teachers for the current academic year 2015/2016. The official letter was signed and stamped by the head of the Educational Research and Curricula Department (see Appendix 6). The paperwork did not end there. Later, I had to visit each education district to get another official letter addressed to the head teachers at the schools I was to visit within each district. Having an official letter from my sponsor, university and the Education Research Department meant the education district officials trusted me and were willing to cooperate with me and thus gave me permission to access their schools. This letter too stated my name, mission and me having access to English language teachers in elementary schools within their respective district governorate. It was only once I had received a signed and stamped (therefore certified) copy of this letter that I was then able to gain access to the schools I needed (see Appendix 7). I was able to use the same letter for all schools within the same educational district. There was no need to get separate letters to access every

school individually. Finalising these official letters was time-consuming as I preferred to conduct the process by myself and not rely on them going through the inter-post system in the ministry to save time, and to ensure I received the access papers as early as possible. As for my interviews with the district supervisors, they both asked to be interviewed in their offices during working hours.

It was a complex procedure and many permissions needed to be granted. Each letter consumed more than a day to ensure it was correctly certified and had to go past many varied personnel and several revisions of approval each time. Nonetheless, according to Olsen (2012), attaining ethical clearance is connected to development of the research design. Having completed Kuwait's prolonged ethical clearance process ensured the ministry's officials were aware of my research study, my target sample population and the methodologies I would employ for data collection. The consent letter explained to the headteachers in their schools my position, the aim of my study and why I was interviewing their teachers. This letter built trust between the school and myself. It also protects the schools when giving an outsider access to enter the school building.

The biggest issue once I entered the school was whether the interviewed teacher could be identified. The teachers feared it might affect their professional career if they participated, especially if they criticised the government. They feared they might not be chosen for future training. Additionally, they feared their annual evaluations would be affected as well. And so to address those points, I have changed the interviewed teachers' names to conceal their identities. In this way the teachers can be assured they will not be linked to any quotes used in this study directly and anything they say is only ever used anonymously with pseudonyms.

As regards the issue of privacy at the time of conducting the interviews, I asked the school administrators to give me access to an empty classroom where I could interview the teachers in private. This ensured the teachers' privacy and put them at their ease to speak freely without worrying about being overheard by fellow teachers or school administrators, who might criticise, or hold against them, what they say. Moreover, to assure the teachers that anything they said would be in confidence, I explained to them that the audio recording of our interview would be saved on my own personal laptop, and all audio files would be password-protected too to further ensure their privacy.

6.9 Conclusion

In this chapter, I have discussed and explored the design of my research study based on the research questions presented. I chose to use a mixed methods design for data generation so that I collected

data in both quantitative and qualitative forms. My chosen data instruments were semi-structured interviews and a questionnaire. Later in the chapter, I discussed the challenges I faced in translating and transcribing the interview audio-recorded data.

The analyses of the data sets were undertaken separately. Qualitative data were coded and grouped into themes as they emerged with the help and organizational capabilities of NVivo software. Quantitative data were analysed using the tools provided on the SurveyMonkey website. The final data sets were finally put side-by-side during the analysis to look at them in parallel. The quantitative data findings validated the qualitative findings in the analysis chapters. I now move on to discuss the findings, drawing on the theoretical frameworks outlined in Chapters 3, 4 and 5.

Chapter Seven

7. Barriers and Enablers

7.1 Introduction

In this chapter I analyse the data gathered to answer this study's first research question. I examine the way technology was employed by the participating teachers. The chapter investigates the skills and knowledge of teachers with regard to the use of technology as a teaching aid and part of lesson plans. I explore their perceptions towards the implementation of technology in their teaching practice. Moreover, I discuss the problems and barriers which delayed or caused complications for the teachers in integrating technology and changing their pedagogies.

7.2 Teacher Training Programmes

As mentioned in the literature review, to facilitate educational pedagogical changes to teacher's teaching practices, they need to be trained on the proposed new skills and taught new knowledge. In the case of Kuwait, as part of the Ministry's plan to prepare the teachers for the new set Grade One curriculum, there was indeed a set training programme which introduced the teachers to the new curriculum and also to the benefits of using technology and the skills needed to integrate it into their teaching to improve their lessons. This was in addition to helping them learn to shift their lessons from teacher-centred to student-centred ones.

During the interviews, I discussed with the teachers the efficiency of the Grade One training programme given and how productive they felt it was. I was interested in the teachers' previous training sessions or workshops led by the Ministry of Education that were associated with their professional development as well. Furthermore, I explored their perspectives specifically regarding the training provided by the World Bank for Grade 1, which aimed to prepare them for teaching the new curriculum by utilising technology. In this manner, a constructivist, student-centred learning environment in class would be emphasised, rather than the teacher-centred instruction methods that they were familiar with implementing previously.

In this section I will discuss different training programmes led by the Ministry of Education for teachers, as well as ongoing professional development courses provided by the Ministry.

7.2.1 New Teachers' Training

I began by discussing the initial training that all new teachers have to undergo on beginning any teaching job for the Ministry of Education. Based on the survey results, it showed this programme was two weeks long, provided by English Language Supervisors from the Ministry of Education. The training programme was concerned with various general aspects of teaching in Kuwait's public schools. It should have largely benefitted those who had obtained an English Language and Literature bachelor's degree, as those individuals lack the educational background and experience of teaching through placements, unlike those who graduated from the School of Education. Furthermore, expatriate teachers should also benefit, because although they are not considered 'new' –the majority have previous teaching experience – they should be aware of the teaching style expected of them in Kuwait's public schools. It is sometimes the case that the style of teaching and assessment differs from schools they were previous employed at.

The majority of teachers described the introductory new teachers' training as "*unhelpful*" and a "*waste of time*". Teacher Eman, who attended initial training 13 years ago, recalled that as *"...new teachers we did not benefit from anything, the things we learned at university were much more.*" This reaction was particularly common among teachers, being expressed in a variety of ways. Teacher Ibtisam, who began teaching 5 years ago, also felt that "*...the training for new teachers, honestly, was useless.*" It is notable that these two teachers attended the same training course 8 years apart. This suggests that new teacher training has probably not altered in terms of content. I personally had the same training back in 2004, being a graduate of the School of Languages rather than of Education. I believed that I would benefit from learning about teaching and its concepts. The course comprised more lectures, as well as reading passages from booklets that continued for hours, similar to the experiences described by the interviewed teachers. There was minimal effort made, if any, to let teachers think about the principles behind certain class activities. They basically finished the course with "no greater understanding of the teaching-learning process than when they went in" (Hayes, 1995, p. 258).

In the case of Teacher Noura, a Bachelor of Arts in English Language, she believed that in her case as well as other colleagues with the same degree, the training provided was neither helpful nor valuable. She rationalised that those who study education have the advantage of learning teaching

through fieldwork, thus providing some level of foundational experience within the field itself. However, individuals like herself without such experience suffered from their lack of teaching experience, something that she felt was not remedied during the so-called new teacher training programmes. She felt disadvantaged, because the training lacked a practical aspect that would have assisted her, suggesting that, if she had begun working and studying as a teacher, then she would be well prepared, *"…but when we come from the School of Arts, we just go to a course, listen to someone lecturing and that's it, not like when you are in the field, it makes a difference."* Teacher Zainab A. shared this perspective and these feelings exactly. Her comments reflected how the majority of the interviewed teachers felt:

> *The course they give for the newly employed, it was sooooo bad, (the trainers) just handed out a booklet and we read it through with him. Just stupid and a waste of time. Simply useless. But its overtime for the supervisor, he gets paid. But for you it's not, it's compulsory and a waste of time. Nothing I was given in that course could I make use of in real life in schools.*
>
> (Teacher Zainab A.)

However, rather surprisingly, Teacher Maali expressed a different perspective. She is an expatriate teacher with a total of 10 years' teaching experience, 7 of which were spent in Kuwait. She attended the new teacher training programme when she first began teaching in Kuwait, 7 years ago. Although she agreed with other teachers about the programme being entirely theoretical, with no practical aspect, she still felt that she learnt a fair amount with regard to, *"The way we prepare lessons, ideas for games, how to use songs, and what to do during warm up, all these I learned them here honestly."* Another expatriate teacher, Rania, attended the training 12 years ago in Kuwait when she first began teaching. She shared Maali's opinion to some extent, commenting that in terms of the theoretical aspects, *"…they were useful to some point, but not as much as when you are in actual teaching, you only learn through practical work."* She explained further that, *"They teach us about the curriculums and how to teach them […] about teaching aids because as new teachers we know nothing about the curriculum."* Therefore, she was able to apply some of the learning in relation to the curriculum aspect of the programme, despite not receiving actual teacher training that would have facilitated her professional development. Another expatriate teacher, Zainab J., felt that:

> *Honestly, the new teacher training was OK but the thing is […] I tell you we didn't really make use of it. In other words, it was, I don't know. It's not that it was useless, there was just no actual application [...] just lecturing.*

Based on the teachers' responses, it was apparent that expatriates who were new to the country found the new teachers' programme quite useful at varying levels, regardless of their bachelor degree or

teaching experience. This indicated that the Ministry's training programme assisted them in understanding how state school teaching works in Kuwait. Nevertheless, Kuwaiti teachers felt differently. Their perspectives regarding the initial training they received were negative. They expressed their feeling that they learnt little, suggesting they had stronger established knowledge of teaching than that provided to them during the programme.

This negative perspective extended to other training programmes provided by the ministry that they attended, e.g.. the English Language Supervisors' course. It appeared that the teachers had little faith in their supervisors. They believed the supervisors did not provide training due to their commitment to professional development itself, rather, teachers felt they simply provided it for the additional money they received. So the teachers felt that, during their careers, although they did attend ongoing professional development training programmes run by the Ministry of Education, they found them not to be beneficial. The teachers, as explained above, felt the training organised by the Ministry enriched neither their knowledge nor their pedagogical skills.

7.3 Continuing Professional Development

> No nation has got better by focusing on individual teachers as the driver. Better performing countries are successful because they developed the entire teaching profession.
>
> (Fullan, 2011, p. 4)

Technology itself will not change or lead to educational reform. Without the proper preparation of teachers whom are the core of the sought-after reform, it will not be possible. Fullan (2011) points out that if we put skilled and motivated teachers in the lead then technology will accelerate those teachers' professional development in a speedy manner.

The Ministry of Education itself provides an array of ongoing professional development or training courses for its teachers during their in-service years. The teachers who attend are those that the Ministry of Education's English Language Teaching Supervision Department selects. They compose a list of teachers' names who are nominated, which in turn is circulated as an official letter to their intended workplace schools. Consequently, not all teachers are able to attend each training programme that is provided, rather there is a 'turn' system, so they have to wait to be nominated. In reality, teachers have no choice regarding what to attend or when. The majority of nominated names

are there because it is compulsory for them to attend, regardless of whether they are interested in a specific educational topic or not.

7.3.1 Training and Short Courses

For teachers to attend in-service professional development, they need to wait for a letter sent by their education supervision department that lists specific names of nominated teachers to attend. Only those nominated are eligible to attend.

According to the teachers' perspectives, this system is unjust, because teachers do not have an equal opportunity to be nominated. During their interviews, Teacher Noura confirmed this claim, suggesting that she did, *"The new teacher's course […] and that's it."* Essentially, over the course of 20 years' teaching in Kuwaiti state schools, the introductory course was the only one she took. However, she has attended private courses and teacher-led workshops during her teaching years, then finally the training provided for the new Grade 1 curriculum. I repeatedly heard this same explanation from my 32 participants, across all educational districts. Teacher Aisha A.'s answer corresponded with that of many of the teachers, as she suggested that, *"In the 11 years I have taught I never saw a paper."* By paper, she meant an official nomination letter for her to attend training. However, she did not express a particular fondness for the courses, suggesting that, *"The practical courses they give us are very poor, they are very generic, the same things repeated over and over."* Teacher Eman raised the same criticism in terms of not being nominated:

> *I wanted to attend training courses but the nominated names were always the same ones. I was not included, but in the end I finally I went on one. I found new words/terms that I didn't know [...] competencies and such and those around us knew them, while we didn't. This shows that there is some kind of error. How come they knew them while we didn't? There are some schools whose teachers are always included in any training while we are not. These things really annoyed me. Year after year we were not included. New curriculums had training and I had to teach them without any training or course for them.*

The teachers' responses confirmed that problems existed in the professional development system provided by the ministry. The Ministry's negligence is something that teachers were aware of, as well as being unhappy about it. Teachers want to develop professionally; they also wish to learn more about to how to apply themselves in their field, yet they are not provided with a fair opportunity to

do so, due to the nomination system used. Teacher Eman's explanation above is an example of the frustration teachers felt, alongside the problems faced in the current system. It indicates a feeling that there is some form or level of favouritism in relation to teachers being nominated, which is evidently unfair to those who are less favoured by their seniors. Teacher Aisha A. supported the impression of favouritism among teachers: *"My point is that those courses that have actual value are not given to all teachers [...] they are given to whom? To their friends?"*

Subsequently, many teachers did not have an opportunity to attend training sessions, as Teacher Latifa emphasised: *"...it has been 2 years since I have been to any."* Teacher Zainab A. also claimed that no teacher had been nominated from her school for some time, a matter of years rather than just a term or two. As a consequence, in addition to the courses not being particularly useful, Zainab A. and her colleagues resorted to attending private training courses at their own expense, because they genuinely wished to improve themselves professionally in their field, rather than simply adding another certificate of attendance to their files.

The selection system has resulted in some teachers being left behind, or their pedagogical methods becoming outdated, as new teaching techniques and terms have developed. Teacher Eman believed that because she was not being nominated for any more training sessions, this resulted in her falling behind in terms of educational knowledge. When Teacher Eman did attend a recent training course, she faced the reality of being lost in the new terminology being used, ultimately having no understanding of what the concepts were, whereas her colleagues understood them. She explained, *"I really wanted to be competent in the subject more than anything else [...] as well as having actual certificates."* The certificates are put in teachers' files, which impact on them being evaluated more positively. All of the teachers cared immensely about their evaluations. All the teachers agreed on the same thing during the interviews, they worked and innovated to improve their evaluations, rather than for personal self-satisfaction.

Ultimately, teachers do want to attend professional development training sessions; however, they also want them to be beneficial, rather than being a waste of their time, as they perceived it. They *"...do want training and development but we do not want just theoretical, we need practical learning [...] I myself want to learn more than just listening to lectures"* (Teacher Latifa). All the teachers I spoke to expressed a similar belief that, *"Unless you work by yourself and try to expand, you can say that you will be in the same place for 20 years"* (Teacher Aisha A.). However, it was simply not the case that they were all provided with the same opportunity to do so, nor were the ones who were attending actually receiving the training they were really looking for. The teachers felt there was no connection

with their trainers. They just listened to them while they lectured, they reported that there was no real collaboration in learning between them, it does happen in these contexts (Freeman, 1989).

Guskey (1986) suggests that there are two reasons behind most professional development programmes' failure: not taking into account what motivated teachers do to engage themselves in the programme, and the process of change teachers go through for change to occur. Freeman (1989) clarifies that this is because trainers are not familiar with the teachers as individuals, just teachers in general. Talking generally about an issue with them can spark conversations reflecting on their practice, but for that to happen the trainer needs to grab their attention. Monotone lectures are universally boring; the listener easily loses interest in following what is being said and gets distracted by trivial things (Gelula, 1997; Collins, 2004; Mann and Robinson, 2009). "To engage the audience, a speaker should speak in a natural conversational tone" (Collins, 2004, p. 1191).

Accordingly, the teachers' responses clearly pointed towards them wishing to develop professionally, though they could not do so simply by attending lectures that were wholly orientated towards theoretical concepts. When a trainer or an expert comes in that has no actual experience of that specific skill, they will just talk about it to the "teachers as passive recipients" (Lieberman, 1995). It is important to remember to "not bore your audience by giving the same information orally and visually" (Erren et al., 2009, p.861)**.** Rather, they wish to learn by practically applying their skills, collaborating as teacher and trainer (Freeman, 1989; Wolff et al., 2015), and focusing their training on approaches that are hands-on, being able to test theories and ideas by applying them, rather than simply listening someone talk about them. Teachers learn just like any other students, Liebermann (1995) explains, they learn best by being actively involved. What the teachers described is a desire for educational workshops, where they can learn from trainers and potentially their colleagues. They want to be exposed to new teaching and learning technologies while actively engaging in meaningful and relevant activities with real-life prospects for classes (Lawless and Pellegrino, 2007). Harris and Sass (2011) studied elementary and middle school teachers in the US to measure the their productivity based on the types of trainings they underwent. Their study showed that school level teachers' productivity increased by them learning through experience and by doing and practising skills.

The majority of teachers were not particularly fond of the training designed and provided by the Ministry's supervisors or trainers, because they centre more on lectures rather than practical training, where teachers can try out techniques themselves. Successful training sessions should ideally be, "highly dependent on the individual teacher, the collaborator, and their interaction" (Freeman, 1989, p. 41). The interviewed teachers felt that the supervisors cared little about teaching them anything. This perception of the teachers emerged repeatedly during the interviews. The teachers believed that

supervisors were involved in training them only to receive extra pay, rather than being motivated by truly helping or imparting knowledge to train teachers. Therefore, the teachers felt, *"The problem is with the Ministry [...] the training that they undergo whether we are nominated or not is useless [...] it is just done for the supervisors"* (Teacher Zainab A.). The teachers' responses illustrated that they rarely had faith in their supervisors. This was apparent from the way that they regarded these training sessions as simply a waste of time. Training was perceived as not having added anything to their knowledge, regardless of them being nominated to attend or otherwise. Although they still wished to be nominated to attend, at the same time they anticipated not being able to learn anything from the courses. What teachers wanted was in-service development programmes that would, "expand their knowledge and skills, contribute to their growth, and enhance their effectiveness with students" (Guskey, 2002, p. 382). They also believed that their supervisors were disinterested in assisting them, only caring about the financial advantages they could gain by providing training, which in reality comprised only theoretical lectures.

Based on Freeman's (1989) definition and my interviewees' responses outlining how they did not change as teachers or learn anything very much, the Ministry of Education has not been implementing training, rather just offering poor development programmes.

7.3.2 Workshops and Model Lessons

When anyone in Kuwait's educational system referred to workshops, they almost always referred to those initiatives prepared and carried out by teachers themselves for their fellow teachers. Those sessions provided by teachers are largely held in order to enhance their employee files by including achievements. In return for these achievements, whether workshops are effective or not, teachers gain a higher evaluation for the academic year. Therefore, many teachers hold various workshops during the academic year. When holding these workshops, they send invitations to other schools for their teachers to attend and, most importantly, to the supervisor of their educational district. Although there were workshops provided by the supervisors as a component of the Ministry's professional development plan, Teacher Aisha A. was dismissive of them: *"The practical courses they give us are very poor, they are very generic [...] the same thing repeated over and over."* As a result, they were not favoured as much by the teachers as those provided by their colleagues.

During the interviews, teachers largely perceived the workshops provided by fellow teachers in a more positive manner than those run by supervisors, while also perceiving them as superior to the

professional training they received from the Ministry's supervisors. They discussed how they acquired some knowledge from their colleagues through their workshops. These ideas, knowledge and experiences shared between teachers, or those with experience in the field, helped to solve many issues that arose in the field (Hayes, 1995). Teacher Fatma S. was more guarded: *"There was some stuff that I already knew and other stuff that I didn't,"* although a large number felt, *"…the workshops too are useful. We learn from each other"* (Teacher Mashael). Hargreaves (Hargreaves and Fullan, 1992) explains that while teachers do learn a lot from each other's experiences (usually in the same school and department) and techniques through discussing them together, they usually adapt the ideas discussed to suit their own theories. As Hargreaves notes, teachers learn a "great deal from contact with other people who are knowledgeable about and have experience of teaching and learning" (Hargreaves and Fullan, 1992, p. 216); in Kuwait's case, those people would be the subjects' supervisors. However, it is essential to note that all of my interviewed sample of teachers had begun adopting technology in their lessons, thanks to information they acquired through these teacher-led workshops. These showed how simple it was for them to use technology, information they emphatically said they did not acquire from supervisor-led training. On the other hand, there were still a few teachers who felt that the workshops were not so beneficial. They perceived the workshops as repetitive in the content: *"I can't remember when the last time I went to a workshop and saw something new"* (Teacher Mashael). Therefore, they did not find any value in attending workshops, as they were, in their opinion, just recycling the same ideas and skills the teachers were already aware of, and most probably already using in their lessons too.

Furthermore, even the school administration is often unconcerned with ensuring that teachers attend workshops. Teacher Latifa explained, *"It has been 2 years since I have been to any workshops!"* Teacher Eman suggested that, *"…before we used to go [...] but now we don't because they do not want to change the schedule for you to leave school."* Ultimately the school administration and the head of department were unwilling to change the teaching schedule in order to guarantee that the teacher could attend any workshops or model lessons. Once again, this was not necessarily the case in all schools. School administrators varied in terms of their vision. Some believed it was necessary for their teachers to socialise or mix with their colleagues, therefore they encouraged their staff to attend these sessions. For example, Teachers Reem and Waffaa, from separate schools, attended all of the workshops they were invited to. Although Teacher Reem did not necessarily believe that they had all been useful, she claimed to have attended a couple of good ones.

When a teacher described a workshop or model lesson as 'good' this could be considered very positive, indicating that she left the session with some new knowledge, building on her own previous understanding. The teachers may have come across something to spark their creativity, in terms of

something to implement or attempt. Teacher Waffaa described some of the lessons she had been to as, *"...filled with many activities that had brilliant new ideas that we can use or change a bit to suit us."* This is an additional example of what I claimed previously, of lessons building enthusiasm among teachers to attempt to implement what they learnt within their own lessons. When the teachers saw class-centred activities that they felt were relevant to their own classes, it encouraged them to modify and develop their teaching (Hayes, 1995). Hayes points out that, "practice is informed by theory, an understanding of theory alone is insufficient as an agent of long-term change. Teachers need to be able to see the impact of the proposed innovation on daily classroom procedures if it is to have any validity" (Hayes, 1995, p. 257).

With regard to model lessons, these were undertaken by subject teachers with a group of students, typically hand-picked by the teacher. They would practise the actual lesson for weeks before. The teacher prepares the students for what they will be asked, as well as what their answers should be. The teacher invites other educators from surrounding schools, in addition to their supervisor of course, to attend the model lesson. Thiessen (1992) agrees that these model lessons are a good vehicle for class-based teacher development, because they stimulate factors relevant to class use. But again, in most, if not all, cases, the sessions were practised and rehearsed, as mentioned above, therefore in reality the lessons did not really reflect real classroom scenarios, and as a result the main purpose of them was lost. These model lessons were not even done in a normal classroom environment, but staged in the school's main hall where visiting teachers and educational district representatives are the audience. Their real purpose was teachers seeking to impress their supervisors. As Teacher Shouq explained: *"...teachers did workshops to basically show off in front of their supervisors."* Furthermore, the head of department wishes to boast that her teachers are active, having held several lessons each year, which in return reflects positively on the head of department herself, who is seen as being active as well. Again, this results in higher evaluations at the end of the year.

During my interviews, many teachers suggested that they did learn at some level from these model lessons: *"...the model lessons and the workshops, yes sometimes we do [learn something]"* (Teacher Latifa). On the other hand, just as many, if not more, stated sentiments similar to the following:

> *Their ideas have been used repeatedly, they go on and on and on. So, what you see in this school, you will see the exact same being done in another school. Even the songs, they just copy each other. The ideas do not develop; ideas are just copied.*
>
> (Teacher Layla)

Similar to the teacher-led workshops, teachers were evaluated for holding model lessons, however ideas were often not their own, with little effort spent on seeking to stand out, or to discover new games and so forth in order to be applied or practised during their lessons. Therefore, undoubtedly, the ideas shared would not be so new.

Another problem with the model lessons was that teachers pre-practised them with their students. As a result, the students always answered correctly, with the lesson progressing particularly smoothly. Thus, the model lesson did not really mirror a 'normal' lesson, with the expected and unexpected obstacles that a teacher may face. Teacher Lina admitted that, *"They are just acting. So really it's useless"*. Ultimately, teachers felt that if they wished to develop themselves professionally then they must personally seek out assistance, rather than expecting anyone from the Ministry of Education to assist or guide them. This also applied to learning from their colleagues. Indeed, the Ministry did provide teachers with private training through the British Council in Kuwait. However, as mentioned earlier, the teachers were again selected, with not all of those interested receiving the opportunity. Ultimately, teachers needed to be part of the right circle of supervisors in order to ensure that they were selected. Some teachers resorted to attending private training sessions in Kuwait at their own expense. Teacher Aisha A. clarified: *"Unless you work on yourself and try to expand, you can say that you will be in the same place for 20 years."* Other teachers perceived that the answer to developing their knowledge was online learning. They decided to learn from other teachers through YouTube channels, education blogs maintained by teachers, or to discover various resources through Google searches. This is discussed in greater depth in a later section of this thesis.

7.3.3 Private Training Programmes

During the interviews, various teachers mentioned private, out-of-working-hours training. Some welcomed such opportunities, while others had various social circumstances that acted as a constraint, largely involving taking care of their own family and children. This was of course understandable, because working outside school hours to attend evening training is not paid as overtime. With no reimbursement, nor faith in the Ministry's supervisors to train them effectively, this undoubtedly resulted in teachers feeling disinclined to alter their social life schedules to accommodate training sessions. The teachers' negative attitudes towards training provided by the Ministry were repeatedly emphasised in many of their answers. Overall, teachers expressed both a positive attitude towards evening training, while concurrently having little confidence in their supervisors' capability to provide effective training. When I asked teacher Eman whether she would attend evening training

sessions, she replied: *"I would go [...] I would definitely go."* Her repeated agreement showed a particularly positive attitude and assurance of her willingness to attend, but at the same time she added, *"But nothing silly and useless like the ones they have given us previously [...] we gain nothing from them [...] just a waste of time."* This emphasised the extent of the teachers' general lack of faith regarding supervisors' training programmes. Another teacher reacted similarly, *"If it was actual training and not just lecturing about concepts, going on and on with no actual applications. This, honestly, is useless [...] just a waste of time"* (Teacher Ibtisam).

A couple of the interviewed teachers mentioned training through the British Council in Kuwait, provided for the teachers on behalf of the Ministry of Education. However, as mentioned previously, to be eligible to attend such training teachers were required to have had their names previously nominated. Most teachers complained that nomination was only guaranteed to a certain group of teachers, with not all individuals having a fair and equal opportunity to benefit from training. Based on the sentiments of their feedback, teachers appeared to have greater faith in the training provided by the British Council, because it was perceived to be conducted by a professional team comprising certified trainers, rather than supervisors. As Teacher Aisha A. clarified:

> *The British Council specifically are doing really good courses for professional development [...] and in the 11 years I have taught I never saw a paper [...] they do send papers to the school about courses [...] but the supervisors never called telling us we were nominated for these courses.*

When I enquired as to whether they would mind attending private courses for professional training purposes, I received varied responses. The majority said they would welcome such opportunities, provided that they were useful and not a waste of their time and, obviously, their money. Several teachers acknowledged that they already attended and paid for private training, which occurred in the evenings, as a means of enhancing their teaching style. Therefore, this indicated that it is not a problem. However, as was repeatedly mentioned uniformly throughout the interviews, such training had to be worthwhile, otherwise they were not interested in attending: As Teacher Waffaa related, *"...as long as it is beneficial."* Beneficial meant having real, practical training opportunities, as opposed to simply lectures talking about theories.

A number of teachers explained that they had given up on the Ministry ever nominating them for training, whether with the British Council or training run directly by the Ministry of Education. As a result, they began attending private classes in the evenings, at their own expense. Because of this, they were able to compare each sort of training, leading to the supervisors being considered less appealing in contrast. Teacher Zainab A. had attended extensive trainings privately, becoming a

certified trainer herself. She described the supervisor training sessions that she had attended previously as *"awful"*, noting we, *"…do not have the chance to speak."* Whereas the British Council training, for example, she described as *"wonderful"* and *"actual training [...] hands on work"*. This was a further pattern that was apparent across the teachers' responses.

As has been shown, teachers accepted they had to pay for training, although there was still some reluctance in terms of the amount that they were willing to pay in total. They did wish to learn, while they also sought hands-on training. They were willing to pay; however, they did not want to pay all the time. Training obviously varied in cost, although the more training they were engaged in, the higher the total sum would be, which may end up being quite substantial. Teachers Eman and Zainab A. had attended a couple of training sessions that cost 80 KD and 70 KD (equivalent to approximately £200), which was of course a considerable sum. Not all teachers could afford to pay such amounts themselves.

This section has outlined the lack of high quality professional development provision for teachers in Kuwait. The Ministry did provide training free of charge to teachers throughout the school year. Nevertheless, as explained above, only those teachers who have been nominated were able to attend. Consequently, not all teachers had a fair and equal opportunity to participate. Furthermore, teachers have now lost interest in the training provided by the Ministry, only attending courses because they were compulsory, having given up on expecting to learn anything from them. Teachers genuinely sought to expand their knowledge and expertise, which they had been unable to achieve by participating in the training provided by the Ministry of Education's supervisors.

Freeman (1989) found that because teachers did not get their trainers to know them as teachers in their own class, the trainers just dictated what was to be done and that was it. He believed for training to be successful there must be a kind of follow-up on the element they were trained on. The lack of follow-up was just another characteristic of training failure. This prompted one to think about the idea of having supervisors train their own group of teachers which they were currently supervising and to be able to follow their ongoing development during school visits.

In the next section I discuss the Ministry's newly developed training programme in relation to the new curriculum. The programme was designed and implemented to support the newly introduced Grade One curriculum, which was designed by the World Bank. Teachers were introduced to the new curriculum through a fairly short intensive training programme, designed collaboratively with the World Bank, in order to learn about the new syllabus and new teaching skills they were expected to apply in their teaching. I will also discuss what the teachers felt and if they received this training, as

well as considering whether it was any different from previous training programmes they had attended.

7.4 New Grade One Curriculum

A new Grade One curriculum for English language teaching was recently introduced in state schools in Kuwait. A group-based partnership between the Ministry of Education of Kuwait and the World Bank planned, designed and finalised the new curriculum with the support of the English Language Working Group from the National Centre for Educational Development. Its development included technology integration to deliver the new curriculum. This came about as mentioned earlier after Amir's reforming outlook for education in Kuwait, for better education. Although this was all encouraging, there seemed to be little attention to how to prepare teachers for these changes to ensure effective technology integration as part of the reform (Safar and AlKhezzi, 2013).

7.4.1 Teachers' Role

Because of the changes in policy, teachers must understand that their role had now shifted from having full authority to being facilitators of learning in their classrooms, going "from an information provider to an organizer of a wide variety of learning activities for all children" (Ministry of Education, 2015. p.8). They needed to shift their lessons from being teacher-centred to student-centred. The teachers were now encouraged to plan lessons that involved collaborative learning between their students, as well as making sure they kept in mind to add at least one of the measured main learning competencies set by the English Language Learning Supervision. These competencies were listening, speaking, reading and writing (National Centre for Education Development, 2013). But the teachers were not able to understand how to shift themselves from their previous roles. Later on, in other sections, we will see examples of how teachers struggled with role-shifting while using the new teaching techniques.

As mentioned above, lessons were to be no longer be teacher-centred but student-centred. Teachers were now able to give their students the freedom to work in groups and learn from each other. Teacher Maryam N. expressed how she felt, saying:

> *...no more open the book, read, answer the questions, close the book, end of lesson. I did not like the old traditional way of sing along, then drill. I am very much happier*

with switching roles and letting them talk and I correct them where needed in the background.

The language teachers interviewed during data collection had mixed feelings towards the newly introduced English for Grade One curriculum. The standard textbook had reduced somewhat in context and with fewer exercises for teachers to use. That resulted in several teachers feeling panicked, as they were not sure how to deliver it anymore. Many of the teachers' responses towards the new curriculum were not specifically regarding technology use and learning, but in relation to being prepared to implement the new curriculum in general. This is a barrier to innovation and it is going to impact on the uses of technology in the classroom, just as much as it affects everything else.

7.4.2 Teachers' Feelings Towards The New Curriculum

A number of the teachers I interviewed repeatedly expressed their feeling that the curriculum, *"...is kind of empty and we do not know what to fill it with"* (Teacher Fatma S.). Because the new curriculum no longer relied on the Teachers' Guide but on the teachers, the teachers now had to be creative to fill in the 'emptiness' they felt in the pupils' textbook. A large part of the new curriculum involved teachers changing their way of teaching and their usual position in their lesson or class. This issue confused many, especially since they would be moving out of their comfort zone to accommodate the new pupils' book they were now using. The Ministry of Education (2015) now expected them to start thinking critically and plan according to the target competency chosen. Teachers were expected not to depend on the textbook only, but to be capable of designing their own activities and materials to deliver their lessons.

Teacher Aliaa felt the new curriculum was *"empty"* too. She explained that she felt lost without a Teacher's Guidebook to follow, and this left her feeling that she had no, *"...real guidance on what to do or what is expected out of us ... I don't know what to teach them!"* This problem was not unique to Teacher Aliaa, many teachers shared this difficulty. In her nine years of teaching, Teacher Aliaa had (like most teachers) relied on the previous curriculum's Teachers' Guide to plan and teach her lessons. She stated that the new curriculum lacked useful materials, which left her feeling lost and not knowing what to teach.

In contrast, Teacher Maali felt the curriculum had not changed much, as she stated, *"On the contrary, I see it just like the old one just re-arranged ... as a way of teaching it didn't differ much."* She was not the only one who felt that way. Teachers Rania and Maryam N. agreed that the changes they saw were just in the textbook, adding that, *"...the curriculum itself is not so rich"* anymore (Teacher

Rania). As many teachers now felt they did not know what to do, many felt it was safer to, *"...refer to the old Teacher's Guide. My colleagues mostly do so as well"* (Teacher Haneen).

Some teachers were unsure about the content of the curriculum and how to successfully teach it. Teacher Afrah was at the time of her interview teaching more than one curriculum and therefore found *"...it's hard to concentrate on just Grade One."* She did not have the time to dedicate all her attention and time to the new Grade One curriculum and really digest it. This was an issue that teachers repeatedly complained about. The supervision department insisted that each teacher must teach at least two different curricula annually, rather than just a single one. If not, their schedules would not be approved. Teacher Afrah went on to explain that the objectives, structure and grammar of the curriculum were unclear to her. Because of that lack of clarity, students were the ones that ended up struggling, rather than the teachers. Teacher Afrah said that she, *"...ended up just going with the flow and they [the students] ended up learning less than last year."*

7.4.3 New Teachers' Guide

The Supervisory Department at the Ministry of Education made their own Teachers' Guide (Ministry of Education, 2015), this time to support and work alongside the new curriculum. It is important to say that the previous guide was very different to the new one. The previous Teachers' Guide was a very detailed one (Ministry of Education, 2003). Each textbook unit was divided into four lessons. Each lesson was planned out to the last detail, specifying precisely to the teacher exactly what to do and sometimes what to say during every one of their lessons. The teachers just had to follow each lesson as it is. They did not put any effort into planning or 'creating' their own lessons and/or activities. That old system changed and was no longer encouraged. The new curriculum did not have a detailed divided Teachers' Guide anymore that went hand in hand with it to the extent the previous one did.

The new one has a different approach. It is totally different to the previous one the teachers were used to. The new Teachers' Guide is now based on three main factors: (1) "to offer possible directions, to investigate, to encourage enquiry, to find ways to conduct students' learning by resorting to genuine and creative teaching approaches"; (2) "explicitly built on the well-known educational principle stating that every classroom and every student is different from others and accordingly your ways of teaching"; and (3) "a teacher's role is to support each student to discover his/her potential and achieve the best possible results in those areas where he/she has maximum potential" (Ministry of Education, 2015. p 1).

7.4.3.1 Teachers' Attitudes Towards The New Teachers' Guide

This change in approach prompted different reactions from teachers. Teacher Aliaa, as well as others, suddenly felt lost and unprepared because she was not used to planning her own lessons. The teachers did not know how to plan their own lessons or at some level were not even capable of planning their own lessons any more. They had got used to simply following instructions without putting in any further thought. Now, encouraged by the new guide (Ministry of Education, 2015), they needed to think and plan their lessons, keeping in mind a constructive teaching approach that promoted student-centred learning. The lessons were to be fun so as to motivate children to learn while adding problem-based learning activities that helped students to work in groups and teams. Nonetheless, a group of teachers were happy to rid themselves of the constraints of the old Teachers' Guide. They felt content and free to be themselves in their own lessons. Teacher Ibtisam, for example, was content with the new curriculum whereby she did, *"...not have to stick to a Guide and do as it says."* She went on to say that she now felt that she had the opportunity to, *"...depend more on myself and be creative [...] it also gives me the responsibility to teach and choose what to teach my class ... before we had a guide and we stuck to it and that was that."* Her colleagues shared her enthusiasm, adding, *"The new curriculum gave me more space to do a lot in class"* (Teacher Aisha A.), *"...it gave me the freedom to be more creative and make my own choices of what to do or use in my lessons .., the choices now are endless!"* (Teacher Aisha M.), *"...it gives me the chance to depend more on myself and be creative [...] it also gives me the responsibility to teach and choose what to teach in class"* (Teacher Ibtisam). So, while there were teachers who still felt it safer to just follow the Teacher's Guide step by step, point by point, there were still many teachers who were happy to rid themselves of the former restrictions they had.

That kind of freedom was praised by the majority of the interviewees. They felt that they knew their own lesson plans and can enjoy more *"space"* while making their own lesson plans (Teacher Maryam). This new freedom to deviate from the Teachers' Guide has given many teachers the chance to depend on themselves, *"...to be more creative and make my own choices of what to do or use in my lessons ... the choices now are endless!"* (Teacher Aisha M.). This new-found freedom allowed teachers to do as they see fit in their classes rather than having to stick to the previous uniformed lesson steps. Instead, teachers at this point had the option to, *"...think and expand the lesson ... and with that I feel more 'fresh' ... thinking outside of the box ... and always looking for new things to try"* (Teacher Ibtisam). Teacher Marwa said because of this change she had the time and space in her lesson plan to use as she saw fit, for example bringing in her own materials from independent sources rather than the usual set of activities they used to have to use, like flashcards and the wallchart issued

by the Ministry of Education to accompany the old Teachers' Guide. They described the new curriculum as a blank page where teachers were now able to control their own lesson flows (Teacher Maryam). Whilst previously described as an empty curriculum, the new curriculum gave teachers more time to search for appropriate materials to use in class, such as, *"...use applications on the iPad, design my own worksheets and videos"* (Teacher Ibtisam).

In contrast to those 'lost' teachers mentioned above, teachers who said that they had control over own their lessons felt that this resulted in better student outcomes. Because teachers now chose their own additional vocabulary to teach depending on its relevance to the unit they are teaching, students end up with a larger language bank. As Teacher Shireen clarified:

> *...with the new style of teaching in the new curriculum, the students were exposed to a vast amount of vocabulary that they learned this year; and because of the freedom we now have to teach, we were able to give them that. They would not have learned this much with the previous restrictions in place. Now I can expand units as I want to and do not have to limit myself to a specific vocabulary list.*

Similarly, in the study conducted by Nikolopoulou et al. (2019), teachers found that the use of technology provided children with motivation and opportunity to extend their vocabulary.

7.5 Teacher Training, Grade One

The main topic of my interviews was the training for the new Grade One curriculum delivered to teachers by their supervisors, and more specifically around the subject of integrating technology into their lessons. The survey results showed that around 80 per cent of Grade One teachers had attended these training programmes, while the others had not for various reasons, such as maternity leave.

The training for the new curriculum was primarily conducted by the World Bank. The World Bank trainers first trained 'master trainers'. These master trainers were supervisors at the Ministry who, *"...get their training from the bank itself, and, in turn, deliver the training to the supervisors"* (Supervisor Al-Asimah). In return, supervisors in their educational districts were appointed to train groups of teachers. When asked to define the criteria used to choose these master trainers, one of the interviewed supervisors, Supervisor Mubarak Al-Kabeer, answered in his own words:

> *The ones chosen are always the submissive ones [...] the ones that just agree and never disagree whether they are convinced or not, so those that discuss or say that's wrong or not this way are the ones that are never chosen.*

Supervisor Al-Asimah agreed that the master supervisors were chosen by the Ministry, *"...randomly ... they ask who wants to offer their services and then choose."* This finding corresponded with Alharbi's (2012) findings when she similarly found an "overwhelming response focused on ICT usage training, specifically how to teach a class using ICT. Teachers claimed they had no training in this area and desperately required it" (p.60). Therefore, based on these comments, there was an understanding that the master trainers were not necessarily chosen based on their credentials, but rather on their submissiveness and willingness not to discuss anything that opposed their seniors and to take on the role.

Many teachers complained that their sessions were not unified in the material covered. Supervisor Al-Asimah mentioned that while there was a unified PowerPoint slideshow that all supervisors used in their presentations or training, each supervisor added material that was relevant in their personal view. Supervisor Mubarak Al-Kabeer defended himself, saying:

> *They give us the material but when we present it, what is the problem? You each have your own personality and your own touch and you are not me. So it's the same material which will be handled and presented in a different way; if I added anything I would ruin it […] it won't work because it is not up to me.*

This supervisor later contradicted himself. He changed his position during the interview when describing the training he gave on the standard curriculum, saying:

> *I do add […] I add about 40–50 per cent of my own material and ideas/ thoughts. My teachers leave the training sessions with a new updated perspective towards teaching […] I do not focus on lesson planning*.

Thus, his two statements, about half an hour apart, negated each other. It seemed that the interviewee felt the need to change his stance and portray himself in a better light.

On the other hand, Teacher Latifa felt that, although their trainer did use the same PowerPoint slides, it was unfair when teachers are trained by those who do not put in any extra effort. Still, some do put in extra effort, *"they get it and build on it […] some stick to what is written and read off the screen and that is it […] it depends on the supervisor really"* (Supervisor Al-Asimah). Both Supervisors agreed, saying some *"just read from the slides"* (Supervisor Al-Asimah) to the point where Teacher Lina claimed she, *"...would not call them training sessions, they were lectures."* Teacher Rania portrayed her disappointment, clarifying:

> *I was hoping that we would see an example of actual lessons led by our supervisors and not them just lecturing us and wanting me to apply their ideas […] I left the training programme still not knowing what I was expected to do!*

Another Teacher, Reem, just like her colleagues, assumed that she would:

> *see model lessons .. be given ideas of what to do when you are stuck [...] things that will help us in the teaching field … they did not give us ideas how to do reading for example … I saw this in model lessons given by teachers throughout the year [...] even the supervisor attending gave praise after each lesson 'This is what we want, this is what we are looking for' – that is okay if it's what you want but why wasn't it taught in training? All they gave us was talk […] I was expecting them to give us ideas for grammar and reading [...] give us examples not just oral talk [...] I don't necessarily do as they say [...] but give me some kind of vision.*

The teacher's comment (above) summarised the attitude and expectations of all the interviewees without exception. All of them concurred that the training for the new curriculum was a waste of their time and not what they expected. Nor was it the kind of professional development that they, as teachers, were looking for. Everyone wanted to learn and see new skills in practice (Teacher Zahra) but found the training to be, *"...mostly on the theoretical side of teaching"* (Teacher Shouq). Additionally, Teacher Zainab J. pointed out that the amount of time allowed for training was *"very squeezed"*, which meant that a lot of information was condensed into just five days. In contrast, while approximately 29 percent of the responding teachers agreed with Teacher Zainab J., the survey showed that about 49 percent of the respondents found the time to have been sufficient and relevant to the curriculum. This demonstrates that a sizeable minority, including Teacher Zainab J, found the experience to be too intense, which indicates the need to have follow-up sessions for those who might need additional support.

Ertmer (1999) and Park and Ertmer (2008a) note two barriers need to be overcome when teachers integrate technology. The first barrier relates to external resources that teachers need, which include both hardware and software. The second barrier is internal where teachers need to gain confidence as well as see value in how technology benefits their teaching practice. Although the first order barrier was uniformly present among the teachers in this study, it did not affect the fact that they did try to overcome it on their own, mostly by providing their own devices which do not just include iPads, but also data presentation technologies and speakers. However, the teachers were united in their view that they had not received adequate training. Therefore, the first barrier, which is usually the easier one to overcome, still existed. Teacher preparation programs have been found to be successful in reducing the obstacles to technology adoption in teaching practices (Nikolopoulou et al., 2019).

Based on the teachers' responses, I identified the problem in Kuwait was that while there was frequent training prepared by the Ministry of Education, the English Language Supervisory Department at the Ministry was not suitably prepared. In this case, there was no proper training in Kuwait to help teachers integrate technology into their teaching practice. Even Supervisor Al-Asimah felt the same way, as she explained, *"You have six areas ... and with the huge number of teachers, how can you deliver training in one month? You can't, you can't. You have a limited period of time and you want to deliver to everybody."* Thus, even the trainers themselves felt they were unable to deliver the training in a single month to all the Ministry's teachers. These comments indicated that the Ministry of Education did not plan ahead to ensure that appropriate training was undertaken in a suitable time frame to ensure its effectiveness. According to both Ertmer et al. (2012) and Jones (2004), the most crucial cause of the lack of any new implementation is the lack of adequate professional development, which is a significant barrier that needs to be addressed. Planning an integral professional development programme requires three connected parts, all given adequate preparation: time frame, equipment and training materials (Ertmer et al., 1999; Jones, 2004). As a result of these identified shortcomings, Teacher Waffaa summarised that:

> *The training course was useless because they did not teach us any skills or ideas of what to do. There was no practical or application side to it, there are teachers that do not know what to do and they were lost and scared, not knowing what to do now and not offered any guidance.*

Most of the interviewed teachers were deeply disappointed in the training they received. Many described it as being a *"failure"* (Teacher Afrah, Teacher Leena.A, Teacher Maryam) or just useless talk or lecturing (Teacher Latifa, Teacher Nancy, Teacher Rania, Teacher Waffaa, Teacher Maryam, Teacher Reem, Teacher Zahra) and that it was focused on lesson-planning rather than teaching techniques. Teacher Maryam confirmed that she has gained nothing from it, to the point where she felt that, *"At the end of the training I left still not knowing what* to do or how to prepare my lessons for it." A study by Ertmer et al. (2012) found that during professional development trainers should be using the same technology tools (or any other relevant materials) that the teachers would actually be using in their lessons. Furthermore, the slides prepared were, *"...prepared by the core team and had nothing to do with teaching"* (Supervisor Mubarak Al-Kabeer). Therefore, those that depended solely on reading slides in their training ended up learning just theory with no practical side to it. The teachers were united in feeling that it was important for them, *"...to work or learn in a hands-on way, not just to listen to others talking theoretically"* (Teacher Maryam N.). As Ertmer et al. (2012: p. 433) suggest, "The best way to bring more teachers on board is not by eliminating more first-order barriers but by increasing knowledge and skills, which in turn, have the potential to change attitudes and

beliefs."

The teachers felt that the supervisors themselves came into the training unprepared and, *"…not really sure what they were doing"* (Teacher Leena.), as well as stating that, *"…the supervision itself is not organised"* (Teacher Niveen). A couple of teachers felt that the trainers came into the training programme not knowing about the changes and actually arrived without the new textbook. They explained that, at the very least, they would have expected some preparation for the forthcoming academic school year, to give them a look at the pupils' textbook and some idea of the new topics or even what it looked like. Teacher Maryam mentioned that the textbook has changed a lot in its layout and the way it is presented. It depends a lot on the teachers adding their own material. She was very disappointed that, during training, the supervisors were aware of that and therefore, *"…was surprised that they did not know the way they wanted us to prepare for it – they could have at least showed us a unit example of how to work with it."* Moreover, at the time of the interviews, the teachers did not yet have any listening material to complement the available textbooks. As a result of this negligence and/or disorganisation on behalf of the supervisors, many teachers were unprepared for the start of the academic year and were lost and unsure what to do, recounting their stance as having to *"do it alone in our own way"* (Teacher Niveen). Similarly, at the University of New England (Kortecamp and Croninger, 1996), they too were challenged by barriers to teach with technology. It was found that thorough planning while educating and training teachers is essential. That included giving teachers an adequate amount of time, commitment and support because, "Both training and education are necessary in learning fully how to utilise technology in teaching" (Kortecamp and Croninger, 1996, p. 74).

An overall picture of the interviews revealed little or no materials and resources available to train the teachers on. Teacher Niveen described her trainer as having, *"…trained us on a curriculum and we did not even see the book!"* The new textbooks were not ready either, so the teachers did not have a chance to see them actual. Teacher Maryam N. described the group situation as follows: *"We were shocked the way it was given! The supervisors themselves weren't sure what the books would look because at the time the books weren't ready"* and thus their training was just,*"…theories, theories, theories."* This is yet another example of the situation mentioned above. As Ertmer et al. (2012) emphasise, in order to succeed, trainers need to see the actual technological tools during the professional development programme being used in the same way teachers are expected to use them. Not having the textbook ready and available is an obvious sign that the training will inevitably end in disappointment, as well as being inefficient.

Furthermore, Fullan (1991) explains that for teachers to start using technology they need to see and understand how that technology will impact on their teaching in a positive manner. That is why the Ministry of Education and the Head of the Supervision Department need to comprehend that teachers, in order to change their teaching beliefs and habits, need to learn, understand and see for themselves examples of how the use of technology (or any other skill) will improve their teaching practice, rather than simply listening to theoretical descriptions of these skills. Teachers are not resisting change, they are merely asking to be coached in a suitable way to steer them towards positive outcomes. As Ertmer et al. (1999: p.70) state, 'If teachers are not convinced that student outcomes will improve through the use of technology, they have less incentive to incorporate it'.

The situation in Kuwait is the opposite of that. The problem is not that the teachers were unconvinced about the use of technology; rather, the problem lay in the fact that they did not know how to use it within the curriculum. The supervisors trained them to develop professionally based entirely on theory. A small number did offer integrated training, but they were not the ones that tended to present skills to the teachers. Rather, they asked other teachers to do it during training because they themselves did not yet have that knowledge or expertise. However, they expected the teachers to manage this situation by self-learning via the Internet. Supervisor Al-Asimah expected teachers to search online and find, "*…a lot of materials on the Internet related to counting and numbers and, wow, imagine the number of resources!"*, disregarding the fact that there was a need to understand how to use this new-found material to complement their lessons effectively. Ertmer et al. (2006) mention a 'lack of resources' as a first-order barrier. Thus, from a supervisor's viewpoint, the Internet has endless resources, meaning that because all the material needed is available online, the teachers should have been able to overcome the lack of resources issue and be able to integrate technology themselves. Therefore, they should not expect to rely on Ministry training, nor blame it for their shortcomings in their preparation.

Teacher Aisha M. believed that there were no new skills presented and that, *"…all that was said we already know, and we can even do better than what was explained."* Therefore, the training failed to present any new skills or challenges to the teachers, it was a mere repetition of their previous knowledge. Teacher Dana agreed, adding, *"…they did not add to our knowledge other than how to write up our lesson plans";* as well as Teacher Fatma saying that, *"…honestly it was just useless … a waste of time, nothing more … we did not benefit or get anything out of it at all."* Teacher Ibtisam claimed that the trainers, *"…emphasised memorising the meaning of the curriculum but did not teach us skills to apply .. they did not give us any activities."* As a result, teachers neither benefited nor gained anything new from the training (Teacher Zainab J.). Teacher Fatma S. added:

> *I feel it wasn't suitable for a teacher with experience, you know? Because I am experienced I know what I will be doing; I only need simple directions, not teaching me how to teach and explain a lesson, you know? I feel that it would suit a new teacher more but, speaking for myself, it added nothing for me.*

Only one of the teachers, Teacher Haneen, had a more positive experience. She claimed the supervisor that trained her was well prepared, and that, *"...her way of explaining and ideas were really good."* She emphasised that the most crucial part was having a lot of practical work during training, which included model lessons and tasks to do in groups. She felt that part was *"very beneficial and enjoyable"* and most important was something they, as teachers *"actually made use of"*, whereas the, *"...old theoretical part was useless and a waste of time."* The teacher's opinion here is in line with McCarney (2004), who found that teachers who were trained on how to use technology to improve student outcomes gained useful pedagogical knowledge to apply in their teaching practice. Accordingly, if the supervision emphasised the practical aspect of Grade One training, it would result in a successful development training programme. Jones' (2004) view complies with McCarthy's as he, too, finds training that does not include pedagogical aspects is unlikely to succeed. Ineffective training was a dominant obstacle to using technology in a way that would have served the teacher's subject effectively. This obstacle has been observed by Arab researchers, mostly in Saudi Arabia as well as in the Middle East Region (Al Mulhim, 2014). Unfortunately, hardly any studies had been undertaken in this area in Kuwait at the time of writing.

7.5.1 What the training lacked from the teachers' points of view

While the Assistant Undersecretary at the Ministry of Education recently said "The Ministry of Education strives to integrate technology in education to inspire and support learning in classrooms, while simultaneously addressing both students and educators' needs" (MENA Herald, 2017), teachers in the field felt otherwise.

Teacher Zainab A.'s. summarised her views by saying, *"...provide us with proper training, to prepare us properly."* This reflected what she and her colleagues consistently felt. Furthermore, Al Mulhim (2014) believed that "the lack of available training holds the teachers back from using ICT in their teaching" (p. 489). All the teachers interviewed were looking for real training by the Ministry of Education that would be free of charge, rather than have feeling compelled to pay out of their own pockets for private professional development courses that, *"...some teachers are not able to pay for at all."* Correspondingly, Alharbi (2012) has also stated that teachers in his study admitted to having had minor training and as a result had to self-learn in order to be able to integrate technology, and

even when they settled for that, they found "the projector equipment is for basic presentations and very little else" (p.61).

Throughout the interviews, one comment was repeated by all the respondents – that they were looking for hands-on training and not wanting to attend any more theoretical lectures. They were uniformly looking for:

> *…things that we can use with the students ... not lesson planning ... tell us, show us what to do and how to do things in the lesson and class itself ... not how to write a lesson plan ... teach us practical things ... point us towards apps and things we can use in class*.
>
> (Teacher Afrah)

In line with the interviewed teachers, the respondent teachers responded similarly in the questionnaire with regards to what was missing from the new curriculum training attended. Respondents were asked to identify what aspects of training they felt to be missing. Figure 8 below is a word cloud generated by SurveyMonkey, which shows that most respondents agreed the practical side of the training was missing:

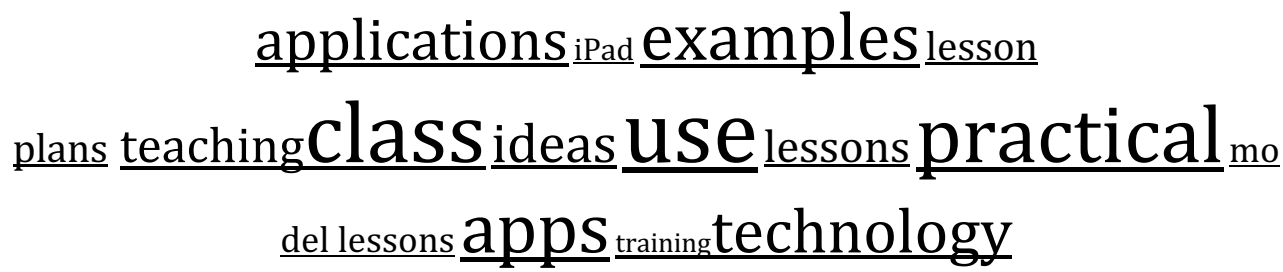


Figure 8: Word Cloud SurveyMonkey Response

The teachers felt that, in order for them to learn new skills, they needed to not just read about them, but try them out for themselves, e.g. in the form of a workshop. Baylor and Ritchie (2002) acknowledge that teachers need to learn how "to alter their teaching process" (p. 401), and later be more willing to change their practice and integrate technology in their language classrooms. Teacher Shouq added that the training sessions would have, *"…been much better if they were more practical"*, whereby the trainers would show them how to apply the theoretical ideas presented rather than just lecture about them. Teacher Aliaa argued that, during training, there was a head of department within her group who asked the trainers (supervisors) to demonstrate some skills in the form of demo lessons, and the trainer's answer was, *"…no [...] you are the teachers in the field and you are better than us*

at that." This shows that the supervisors were not really prepared to train, nor did they feel that they had the competence to do so. Supervisors needed to acknowledge that just because devices were present in class it did not mean that change would automatically occur. Supervisors, as Ertmer at al. (1999), Ertmer et al. (2006) and Ertmer et al. (2012) advise, need to be aware that teachers getting devices themselves is not enough. Teachers need to learn, understand and believe that technology will help them in their teaching and ideally increase student attainment. Once this is accomplished, teachers will feel more encouraged to adopt technology and, in the process, overcome the second barrier. Discussing this point with the supervisors during their interviews, Supervisor Mubarak Al-Kabeer admitted, *"...we were not trained by specialised people."* He justified this by saying that if the teachers wanted real trainers, the Ministry of Education should be aware that, *"...to do professional targeted training you need to get a specialised professional with the necessary material present and then we can (deliver)."* To deliver an efficient professional training programme it has to be kept in mind that the set delivery time, the equipment chosen to be used, and the training material for presentation are all equally important and essential (Ertmer et al., 1999). These elements have not been provided by the Ministry, neither to the supervisors in the initial World Bank training, nor in the training for teachers. Therefore, it is incomprehensible how the supervisors were expected to professionally train teachers when all the while they were not properly trained themselves either.

The skills the teachers wanted to learn were also those that were of relevance to their work. In this case, new skills were those needed to apply the new curriculum, specifically, *"...more practical than theoretical, based on the exact curriculum they want us to teach"* (Teacher Aisha M.). Additionally, they asked for training to be clear in what it was presenting. A clear plan or outline set by the supervisors that explained or clarified to the teachers was:

> *exactly what they want ... what they want us to do this year and list them 1, 2, 3, 4, 5 [...] what do you want us to achieve 1, 2, 3, 4, 5 [...] what is expected from me as a teacher? 12345 [...] how can you help me achieve this? 12345 [...] clarify, this is what we want.*
>
> (Teacher Aisha A.)

Teacher Eman added an explanation that even if the teachers were taught skills during training they needed to see examples of how useful the technology was, *"...useful and related to our work."* Another respondent, Teacher Sabeeka, also felt that, *"...more implementation"* was needed by having practical training workshops where she and her colleagues could, *"...learn more when I apply ideas myself rather than just listening to lectures."* This point of view demonstrated that for teachers to adopt the use of technology they needed to see how it would be beneficial for them. They needed to

understand how it would make their teaching easier and facilitate the teaching of language. She continued that teachers wanted to see model lessons that were not pre-practised, but real-life ones that realistically showed how students, and herself as a teacher, would gain advantages from technological integration. This would promote interest once teachers felt that the integration of technology would improve their teaching methods and their students' motivation. Unal and Ozturk (2012) studied teachers in Turkey where they also found that ineffective training resulted from the lack of a pedagogical aspect.

Teacher Eman made a very important point that neither of the supervisors mentioned during her interview. She felt that there was a need for continuous teacher development, not just at the beginning of the introduction of a new curriculum. She specifically pointed out the need for, *"...training sessions or workshops on up-to-date applications to use."* Thus, this showed her willingness to integrate but only if she saw support for integration as well as ongoing updates. Teachers need to be provided with suitable training that prepares them to integrate technology before they are asked to use it in their classes, in addition to it being available continuously throughout the school year (Alkahtani, 2017, p. 34).

Many teachers were aware that having a device to hand was not enough to promote its proper use in class. Teachers needed to have a vision about how to create a student-centred learning environment (Ertmer and Ottenbreit-Leftwich, 2013). Teacher Ibtisam shared the same perspective as other teachers when she added that there was no need to train teachers in how to use the iPad as a tablet (for example), it was something they already knew, but rather how to apply its usage in their lessons. Again, Teacher Eman called attention to, *"...how to use advanced applications and programmes."* She mentioned an application that enabled teachers to create stories which she found interesting, *"You make up characters and give them sounds and I don't know what [..]. it is nice but I don't know how to use it."* She repeatedly emphasised, like many others, the need for expanded *"knowledge on how to use it."* As Ertmer et al. (2006) note, if teachers have no vision of technology or how to use it, and do not receive support from their seniors, it is hard for them to translate imaginary visions into their own practice. Thus, the supervisors, or trainers, need to be aware of the extent of the problem in addressing teachers' needs. The interviews conducted showed a continuous demand for practical professional development in order to expand teachers' skills and confidence, and thus encourage them to integrate technology. Even after gaining befitting knowledge, teachers need time to digest their new knowledge and put it into practice (Muir-Herzig, 2004).

Similarly, in a study done in Sudanese schools, a link was found between not overcoming barriers and the shortcomings of teacher training whereby teachers were unable to integrate technology

correctly as a result of poor training (Elemam, 2016). Teacher Latifa, likewise, focused on teachers' need to learn or be guided on how to integrate the iPad into lessons. She concurred that she felt a bit lost in the world of available applications and did not really know how to use them to her advantage in teaching students. This was a further example of Ertmer's (2012) conclusion that teachers need to be trained on the actual devices they will use in order for them to realise to their full potential. While a number of teachers had positive beliefs and attitudes towards the use of technology, they expected trainers to help them to learn how to integrate technology in a cognitive manner into their subjects in order to embrace pedagogies that would facilitate authentic student learning (Ertmer and Ottenbreit-Leftwich, 2013). In order to overcome that first barrier, teachers needed to feel that the supervision was really supporting them to use technology in a fitting manner, as well as helping them to develop their skills. Proper professional development is also needed in order for the second barrier to be overcome: "Little will be gained if second-order barriers (knowledge and skills, attitudes and beliefs) are not addressed" (Ertmer et al., 2012, p. 433). Both the first and second barriers are intertwined in addressing the need to improve teachers' knowledge.

Later on, Teacher Latifa also mentioned wanting some real *"micro-teaching at least"* in order to learn how use of the iPad could work in her lessons. To integrate technology and shift one's practice is not an easy change. But if teachers themselves could see how it would benefit their students it would encourage them to adopt technology and change (Muir-Herzig, 2004). This point emerged repeatedly in nearly every interview conducted. Supervisors could curate online forums to connect teachers together so that they learn from each other. Virtual networks could be created where pedagogies, personal experiences and ideas are shared, and interactive discussions take place. Ertmer and Ottenbreit-Leftwich (2013) confirm that using teacher 'learning networks' allows teachers to, "select the information they want to learn (teacher-owned, development of content and pedagogy knowledge) on a continual basis (ongoing) and reflect on the state of their current pedagogies through interactions with other teachers (reflective)" (p. 180). All the teachers felt that the training lacked help or a means to lead them onto the right path to explore new applications that would be advantageous to their subject and encourage them to integrate technology more than their current basic use. Therefore, while teachers provided their own devices to overcome part of the first barrier, this did not mean that it had been fully overcame. To effectively use these devices, teachers needed to know how, when and what to do in terms of their future teaching. For that to occur, efficacious professional teacher development needed to be undertaken at the start of the new curriculum, plus maintaining training on an ongoing basis (Alkahtani, 2017).

Change needs time and effort from all sides to be put in place. It occurs slowly. It is unrealistic for the Ministry of Education to expect teachers to transform their pedagogy and integrate technology in

the same academic year. Teachers need to take part in carefully planned training programmes which address how to overcome all the second barriers that have mentioned, such as changes to their beliefs or skills in using technology effectively. Lowther et al. (2008) studied teachers who were part of Launch 1 in the three-year programme of Tennessee EdTech Launch (TnETL), 927 teachers took part. In their study, they found although the program had positive effects on those teachers who attended it over those who did not, there was still a need for continuous professional development training which focused on using technology as a learning tool. In Kuwait, the teachers attended a single programme lasting 10 working days in total. Therefore, it was near impossible for teachers to have learned enough skills to enable them to change their pedagogies in the manner the Head of the Supervision Department at the Ministry of Education was anticipating. Training needs to be planned well with targeted goals, as well as continuous for teachers.

Obviously, teachers needed to have prior basic knowledge of technology and pedagogical knowledge to facilitate the use of their iPads, but it was more important for them to learn how to use various such devices, or any other modern technology, to support a constructivist learning environment in their classes. In another study by Polly and Hanafin (2010), which studied two teachers, they found that when they planned their lessons and worked alongside, and with the help of, a knowledgeable professional developer, they were able to achieve that within one year. That is where Kuwait falls short. Those supervisors who were developing teachers professionally were not knowledgeable in the subject itself. While they were knowledgeable in terms of content, as well as pedagogical knowledge, they fell short when it came to technological pedagogical knowledge. As mentioned earlier, they expected teachers to go online and learn through 'googling', or YouTube videos, instead of through professional training development programmes.

The phrase *"no guidance"* was repeatedly stated in a consistent way throughout this study's data collection. This indicated that teachers did not feel nor see any sense in guidance from their supervisors or from the training courses they attended. This is obviously where supervision lacked delivery, but at the same time, the supervisors seemed to feel they were delivering the information required. They did not seem to be able to confront their own negligence. Professional development needs to provide a pathway for teachers showing how to successfully implement technology into their classrooms, and guide teachers towards student-centred learning (Park and Ertmer, 2008b). Safar and AlKhezzi (2013) made a recommendation directed at the Ministry of Education to facilitate this educational reform and overcome the shortages faced. The recommendations included the need to facilitate "teaching staff with training sessions on how to efficiently and effectively incorporate and integrate ICT" (p. 625).

Ultimately, it was the teachers that suffered, *"…because we started to teach this year without a clear plan or idea of what we actually have to apply in our classes"* (Teacher Leena). Additionally, most of the respondents agreed that they tried to talk to their supervisors and explain what they believed regarding the actuality of what they look for as an outcome from training, but they felt that, *"…nothing came of it (from their supervisors)"* (Teacher Maryam). Teacher Noura also expressed her needs from supervision to help her as a teacher. She clarified her disappointment, saying, *"…when you (the supervision) come and give us something you are not sure of, then don't ask me how I will do it."* Her view was just another example of how some of the supervisors were themselves unprepared, while others were incapable of delivering the expertise the teachers needed. The teachers felt that the supervisors dealt with their shortcomings by shifting the roles around and expecting the teachers to be able to figure out the skills themselves because they were the ones actually working in the field. Most teachers were enthusiastic about using technology. Therefore, the Ministry of Education should have taken advantage of this enabler to encourage and develop teachers professionally to foster effective adoption. Ultimately, the teachers were held accountable for any mistakes they made in their lessons. This feeling was common, whereby the teachers felt that the supervisors were not there to help them, but only to present material without concerning themselves with whether what they were doing was relevant and purposeful to the teachers.

The teachers' responses in the survey were in line with the interview sample. The teachers when asked what they hoped to have covered in training stated they were looking to learn new teaching skills. Several added they hoped to have learnt more about technology integration in their lessons, in addition to exploring the practical uses of tablets in their lessons as well as effective applications that they could use in their lessons. Sadly, none of these criteria seemed to have been met.

7.5.2 Mandating the Use of Technology

As part of the requirements of Grade One training, the trainers advised the teachers that they should use technology as part of their teaching in their lessons and practice. Additionally, there would be a new clause on the teachers' evaluation forms that appraises the use of modern technology in class. Supervisor Aisha A. clarified that the clause related to whether the teachers were, *"…applying the use of modern technology, but this concerned my attendance (meaning the technology used during a lesson visit), but the final version did not have it. It concerns whether the teacher is up-to-date [...] being up-to-date involves everything."* Teachers were aware that the use of technology was no longer a choice. That said, the teachers were not aware that it was not part of their final annual evaluation.

Teacher Zainab J. pointed out that, "…*the supervisor comes in and asks us to bring iPads and data shows because I will evaluate you on that."* Teachers felt pressured to adopt technology not because they wanted to, but to guarantee a satisfactorily high final evaluation.

Because the Head of Supervision at the Ministry of Education was constantly changing the regulations, the teachers and their direct supervisors were not always on the same page. This controversy was another example of how supervisors and teachers were not really working together as a team. Each side saw and had different beliefs. There was no clear honest communication between the two sides. There were many gaps that needed to be filled and clarified in order for the teachers to know or understand what was expected from them. All that emerged while analysing the data was continuous miscommunication between two departments. This resulted in teachers feeling lost and having no clear understanding of what was expected from them. Some felt that it was just a phase, *"like a trend"* (Teacher Shouq), a temporary thing they were asked to do, especially since they were not trained and schools were not prepared for technological integration. The supervisors just verbally instructed teachers to use technology because it was new and exciting, but they did not provide any guidance.

Thus, the supervisors seemed as if they were unaware of these gaps. While the teachers were aware, they seemed reluctant to face or challenge their seniors. The teachers were not even sure who exactly evaluated them on technology usage. Teacher Eman remarked, *"The one who insists on the use of technology is the principal. She is the one that insists we use technology, part of our evaluation is a clause concerning whether a teacher is developing her teaching style and using modern technology."* As a result of that perception, while most teachers already had their own devices at school, they *"don't all use them"* but kept them in their desks in their department and would use them only if the teacher, *"...felt today the principal will attend her lesson and so she will take the devices with her"* (Teacher Eman).

Another respondent, Teacher Marwa, talked about an incident she experienced herself. She said that while she used modern technology in an orderly manner, there was one occasion when the head teacher came to evaluate her lesson. Unfortunately for her, that was on a day when she forgot her iPad. Consequently, the principal commented negatively that her class would be, "*...better with the use of technology, your level of work goes down without it."* This comment had a negative impact on her. She felt she was, *"...being judged for one class without the iPad rather than my work as a whole."* Here she, as well as other teachers in the same situation, started to feel discouraged. She stated it was *"discouraging"* and it *"lowers my self-esteem"* (Teacher Marwa). They no longer put

real effort into planning productive teaching lessons, instead they focused on pleasing their evaluators without giving a thought to their lesson outcomes anymore.

As this notion was repeated by various teachers during the interviews, a pattern emerged, revealing that they were using technology primarily to satisfy their seniors, be it the head teacher, supervisor or head of department, so as to ensure a good evaluation and gain their approval of their skill as teachers. They forgot that the point of using technology was to improve students' outcomes and motivate them to learn and practise the language taught. *"Teachers use technology, but the student does not benefit from it [...] so what is the point?"* (Teacher Shireen). The survey results showed that only 1 per cent of teachers shared Teacher Shireen's point of view, while 62 per cent did feel strongly that technology use in their practice helped their students learn or acquire the language faster. Overall, 39 per cent considered the use of technology in teaching essential.

The Ministry's objective for integrating technology into lessons was to engage the newer millennial generation in a more animated learning environment targeted at motivating students as well as improving the skills they attained in their taught subjects. From the point of view of the teachers, as revealed in their interviews, the failure to use technology effectively resulted in it being inefficient and not helping them. Thus, teachers felt its use was useless and a waste of time and energy. Consider Teacher Eman S.; she felt that the use of technology was not efficient when she commented that a teacher "*…used PowerPoint, and then what? Where is the 'integration of technology' in that?*" This shows the teachers were aware that they did not know how to use technology efficiently in class. This is a tangible example of digital natives. While the teachers know how to use technology in their general daily practice, they show a lack of confidence when they start something new. The teachers are looking to learn new skills that they do not know.

The teachers' clarifications showed that there was some misunderstanding over what the teachers' final evaluation actually evaluated. The supervisors claimed (above) that their final evaluation did not include a clause referring to the use of modern technology, just their routine in-class evaluation form did, while the teachers believed otherwise. They thought they had to use technology in their lessons because their final evaluation included a related clause, which might in effect lower their total final score. Most of the teachers, as Teacher Eman explained, believed that part of their final evaluation assessed, *"…our evaluation includes a clause about whether the teacher is developing her teaching and uses modern technology"* (Teacher Eman). As a result, because of that unclarified point, teachers explained that, *"…as soon as there was a clause more teachers started using and got their own data shows"* (Teacher Leena) and they started adopting modern technology use and integrating it into their lessons, *"…because of the evaluation"* (Teacher Eman).

As mentioned previously, teachers take their evaluations very seriously. They are willing to do all they are asked in order to achieve a good end-of-year evaluation, whether they are convinced to change their teaching beliefs or not. For that reason, most teachers provided themselves with their own devices just to ensure a high evaluation, not because they believed in the power of technology use, nor were they convinced to change their practice. Teacher Zainab J. explained that she did not protest against or question what was asked of her. She just did as she was told, rationalising, *"We have to handle the situation we are put in. If they ask you to do something then you just have to do it, regardless of anything. I just do as I am asked."* In accordance with Teacher Zainab J., Teacher Noura showed that plenty of teachers had the same attitude. She criticised herself and her fellow teachers for not speaking up to the school administration or supervision department. They simply, *"...do not confront each other. Teachers worry about their evaluations, that they will say she is not cooperative. It is tricky really, to avoid this, so we go with the flow.*" Rather than voicing their frustrations, they keep quiet in order to protect their evaluation outcomes.

Therefore, because the trainers were not clear about this matter and just treated it as some kind of general information, this resulted in the teachers being unsure if integrating technology was mandatory or if the integration idea was just a suggestion. When asked, the teachers seemed confused about what was expected of them. Teacher Aisha M. said, *"...they did not say we have to, I think they meant it is nice to use it"*, while Teacher Maryam explained, *"I think they said you have to because it makes teaching easier.*" *"She said that when you use technology you will have a better evaluation"* (Teacher Aliaa). What most teachers understood was that the supervisors wanted the teachers *"...to use it but it's all informal"* (Teacher Aisha A.), *"...that it is nice to use it"* (Teacher Aisha M.) and, *"...it is preferable"* (Teacher Aliaa, Teacher Maryam N., Teacher Niveen, Teacher Shireen). At the same time, the teachers affirmed that the, *"...administration, supervision and head of department always repeat and emphasise the importance of the use of modern technology in our lessons"* (Teacher Haneen). Hence, the teachers, even if it was not an actual evaluation clause, still felt pressured into using technology due to their concern with their final evaluation scores. The teachers felt that they were *"forced to"* (Teacher Eman) and it was *"said in an indirect way"* (Teacher Hanadi) that they needed to integrate the use of modern devices into their lessons or just have devices present in class to show and they were not encouraged to use technology in a productive manner that would improve their teaching.

On the other side, many teachers said that even though the use of technology has become mandatory, it did not really affect them because they were already using it. *"It does not make much difference"* (Teacher Maryam, Teacher Waffaa). However, the pressure of being evaluated on their usage of

technology put them in a new position. Teacher Zainab J. felt disturbed by the position the supervisors put them in. She described what happened at her school, *"The supervisor comes in and asks us to bring iPads and data shows because I will evaluate you on that."* She then explained that that meant that those who did not do as 'ordered' would be receiving a poor evaluation from their supervisor or head teacher. Therefore, teachers had to bring in the devices and do as they were told or asked.

7.5.3 Evaluation of the Use of Technology in Class

Some of my interviewed teachers did not see the their supervisors' preference regarding the use of technology as a problem. That was because most already used an iPad in their lessons in some capacity. However, when they were asked how they felt about being evaluated regarding its use, their responses differed (see Appendix 8). They felt that it was unfair even though they already used technology (Teacher Aisha A.).

The teachers felt that once they started to be evaluated on its use, the Ministry should have first provided them with those devices and any other digital devices before mandating their use (Teacher Sabeeka). For example, Teacher Fatma S. had no problem with having to use technology, or not being trained on how to use devices effectively in class, but she asked, *"Don't they have to provide us with that (equipment to use)?"* She further explained that while they did get a salary increase, they still had to spend large amounts of money on equipment and thus took out part of their increased income to please their supervisors. Many teachers, even with a pay increase, were still unable to afford buying those devices (Teacher Shouq, Teacher Lina). According to Teacher Ibtisam, *"…it is unfair because not all teachers can afford to buy the devices."* Moreover, another respondent, Teacher Zahra, stated that, *"There are teachers that really cannot afford it [...] not the Kuwaiti ones but the expats [...] so how will she (supervisor) evaluate? She will not rank them as excellent? It is not fair … they are really good and their lessons are nice [...] but they just lack technology."*

It is important to point out that teachers' salaries from the Ministry of Education in Kuwait differ. It depends on whether they are Kuwaiti citizens or not. Non-Kuwaiti teachers are paid less than Kuwaiti ones. Because of that, many expat teachers did not own their own devices, but shared with their colleagues who did. However, the non-Kuwaiti interviewed teachers felt just as pressured. Teacher Niveen, an expat, said that while the supervisors, *"…do not force you to buy devices,"* they constantly reminded them that, *"there is a clause to evaluate you on their use."* So, what she felt was happening was really that the supervisors were *"forcing me indirectly"* to get her own devices. The issue was

not that teachers did not want their own devices, but other life priorities were more important to them. As Teacher Niveen made clear, *"...sometimes the teacher wants to, but she cannot afford it financially, but in this case, she has to",* because they are worried, just like any other teacher, about losing points on their evaluations. Consequently, they succumbed to indirect pressure and did what they were asked to do.

Teacher Maali, from another school district, added to Teacher Ibtisam's thoughts, *"They really should provide us with the means [...] not everyone in all schools can afford it [...] I know in my school we bought our own but that does not mean it is the case everywhere."* For example, in the English language department at Teacher Ibtisam's school there were three or four teachers who did not have their own devices. That was because either they could not afford them or they felt that the Ministry should pay for them. Teacher Maryam's school was another example, where, *"There are teachers that really would like to use technology but cannot afford to buy the devices needed [...] so how can it be justified to evaluate her on it?"*

Most teachers shared a mutual feeling of annoyance and bewilderment at being put in a position where they were being evaluated on a skill they were not trained on, nor prepared for, let alone equipped with suitable devices to enable them to integrate technology into their lessons (see Appendix 8). Teacher Zainab J. voiced her discontentment regarding the Ministry's instructions to integrate technology, retorting, *"...teach me how to use it [...] then ask me to use it! But now they (Ministry officials) just say use this and that without any explanation [...] and we will evaluate you on whether you use it or not!"* Teacher Noura felt that the supervisors did not help them to become better teachers, they were only there to evaluate them on their lessons without helping them achieve what they were asked for. She characterized the supervision as being unhelpful to them as teachers, as:

> *...they just come in to evaluate your lesson and that's it ... they do not give the teacher anything else ... sadly without any help or guidance ... ironically it is called 'guidance' but we have never got any guidance or anything else that could help us develop or change [...] their job is just to come and evaluate your lesson and that's it.*
>
> (Teacher Noura)

When I asked if this meant that teachers were aware of being evaluated on their technology use she replied firmly, *"Yes [...] and that is why I got the data show and used it not because I want to nor because I am convinced ... it is not that I am outdated, it is just that I do not see how it would beneficial and we were not shown how to make use of it."* This was one more example of teachers using technology not because they believed in its power in their lessons, but to please their evaluators.

One of the interviewed teachers explained that they sometimes felt that they were taken advantage of because they were getting their own devices rather than pressuring the Ministry into providing the devices to them. Teacher Hanadi speculated why the administration would bother spending their school budgets to provide them with devices since, *"...we have already got our own."* Additionally, Teacher Dana explained her point of view, *"I am not obliged to buy devices with my own money, if I do then it is out of my own goodwill, and that is fine. But do not evaluate me on using it or not [...] it cannot be!"* I came to understand that even though the teachers were bringing their own devices to their lessons and had been integrating their use, though not necessarily in the correct manner, they still found being evaluated on their use uncomfortable and unfair. When asked why they had not voiced their feeling of discontent regarding purchasing their own devices, it emerged that the teachers who complied with bringing in their own devices felt they had been taken advantage of. They believed it was useless to ask for devices now because:

> *They already attended our lessons and saw us using our own devices, so I guess they think why get new ones?! I don't really know how they think! But we do get what they want to ensure we have high evaluations.*
>
> (Teacher Mashael)

Similarly, while Teacher Aisha enjoyed using technology in her lessons, she did, *"not like that fact they force us to use it and at the same time they won't provide us with the devices and so we have to pay out of our own pockets."* Likewise, Teacher Maryam, Teacher Zahra, Teacher Mashael and Teacher Dana argued that it was not reasonable to evaluate them on something that they were not provided with nor trained on, stating that the Ministry should, *"...provide us with proper skills at least!"* (Teacher Maryam). On the other hand, Teacher Shouq claimed that while she could afford to buy her own devices, she felt, *"I am not obliged to [...] I will teach, but I will be using what you (the school) have provided me with [...] what you do not provide me with I refuse to buy out of my own money."* While she did bring in and use her iPad in her lessons occasionally, she truly believed that if, *"...you believe in something you stick to it."* When we further discussed how, as a teacher, she perceived being evaluated about integrating technology into her lessons she was the only interviewee who had a different perspective. While all the others' main concern was attaining good (high) evaluations, Teacher Shouq said, *"...it is not about the evaluation. I don't care what they (the evaluators) see as much as I care about what they (her students) are learning from me."* With regard to her annual evaluation, she explained that although the head teacher and head of department did remind her of the importance of using technology in her lessons, *"What I know from her is that she*

(head of department) is happy and satisfied with my teaching … the same goes for the principal [...] she saw me once using technology and has it in her mind that ok she does use it … but I don't."

It was a refreshing change to interview her as most teachers prioritised their evaluations and focused on their results rather than how they were teaching. Most of the interviewees were against providing their own devices, yet, they all ended up doing so. This showed that they did not teach in a manner which they believed suited their subject, rather they tried to please their supervisors.

In general, most of the teachers felt that it was unfair regardless of whether they were already using technology or who bought or provided the equipment used. It was not fair to evaluate them on technology use without having schools prepare or instruct them on how to use it properly. To use technology well they have to be prepared for its proper use in their practice, *"They did not provide us with anything at all, when they provide us with everything we can do more"* (Teacher Maryam N.). As mentioned in other sections, the teachers were looking for proper training that would prepare them to integrate technology into their lessons, as well as other equipment. Integration at the time of data collection was mostly based on their own efforts and peer learning. Therefore, they felt that it was unfair to judge them on the manner in which they were integrating technology in their lessons.

In contrast to what most teachers, e.g. Teachers Fatma S., Zainab A. and Shireen (from different schools) commented on, there were teachers who did not use technology but did get high evaluations, i.e. *"Teachers who do not use technology and are being evaluated as 'excellent'"* (Teacher Shireen). *"Teachers who did not use technology still get evaluated as 'excellent'"* (Teacher Zainab A.). These teachers were usually *"old or expats"* (Teacher Fatma S.). Teacher Fatma S. said that the supervisors or school administration did not say anything to them when the students' outcomes were good. They, *"…don't ask her to do anything extra related to technology."* She further commented, *"…it is unfair of course but what can we do? We do just as we are told."* This once more demonstrated the unfairness felt by the teachers. They were regarded and evaluated differently based on their age and citizenship. It is not shown in studies that young teachers are expected to know, without any training, how to use technology in their teaching because they are perceived as digital natives, while older teachers are considered digital immigrants who, based on Prensky (2001), do not have adequate knowledge of using technology as younger teachers do.

A study done by Crichton et al. (2010) held that the age of the teacher was not enough to decide whether they would be comfortable with technology use or not, but rather the career stage they were at. It was found that technology integration depended on the teacher's position in their career cycle and not their age. Likewise, Guo et al.'s (2008) study also concluded that there was no noteworthy

difference between teachers who were considered digital natives or digital immigrants, and the differences have been "exaggerated" (p. 251). Yet although younger teachers (digital natives), as Lei (2009) found, had more belief in the benefits of using technology in the classroom, they too, just like the older teachers (digital immigrants), lacked "experience with subject-specific technologies" (p. 92) and would still have to learn how to integrate technology so as to serve their teaching subjects.

Teacher Zainab A., a technology use enthusiast, pointed out that although her supervisor cared about technology integration and had repeatedly complained that their department was *"too traditional in their teaching"* because of its lack of technology adoption, their evaluations were not affected. She stated that all teachers were evaluated in the same manner, *"...whether we use technology or not."* She went on to describe how it felt a bit unjust to those teachers that did adopt technology and also put extra effort into planning their lessons to include videos, activities or games. She described her annoyance: *"I use technology a lot and on the other hand we have the oldest teacher who uses nothing other than flash cards and a whiteboard seriously. At the end of the year I got 96 per cent and she got 95 per cent, which is practically the same [...] we also both got the same bonuses [...] we did not differ at all."* She repeated again that while her supervisor complained that other staff in her department used more traditional teaching aids, during the evaluations, the supervisor, *"...praises and ticks off all the evaluation sheet points as excellent"* Consequently, she speculated why her colleagues would, *"...bother with putting in extra effort?!"* This was an example of where teachers were losing their inner drive to become more creative. Instead they felt they were getting, *"...no appreciation [...] and losing motivation to do more eventually"* (Teacher Shouq), As a result, when teachers felt that using technology or not did not affect their evaluations, they stopped putting extra effort into their lesson planning and adhered to the traditional way of teaching that they were used to and left, *"...all their devices in their drawers"* (Teacher Zainab A.). Teachers felt their extra efforts should be acknowledged. They felt that their extra efforts to integrate were not appreciated, explaining, "*Teachers who use technology and those who don't shouldn't be the same*" (Survey Response).

Not all heads of department took the evaluation forms as if they were carved in stone. Teacher Lina explained how her head of department said that even though there was a clause in their evaluation about using modern technology she would not evaluate the teachers on it because neither, *"...the ministry nor the school provided the materials or devices."* It was a refreshing attitude and it was a nice change to see a head of department to stand up to the unfairness faced by their department.

In contrast, Teacher Sabeeka's head of department was not as understanding. Teacher Sabeeka, just like her colleagues, felt it was unfair of their evaluators to evaluate them on a clause that they were

not trained for, nor provided with suitable means to be evaluated on. She explained that to her head of department and the head teacher, but they both made it clear that they would evaluate the teachers on their usage of modern technology in their lessons and would, *"...hold those that do not accountable for not doing so."* Sabeeka believed that the Ministry should have provided them with materials and training; therefore, she refused and held her ground on that belief and did not provide her own devices. However, in this current academic year she succumbed and got her own iPad and data show to ensure her annual evaluation did not suffer again. She explained during the interview that despite bringing her own devices, she did not rely on modern technology use in every lesson. She varied in the use of teaching aids during her lessons and did not, *"...want to always stick to the iPad, I want to use a variety of techniques. I want them to play in class, to run, to move."* She then went on describe the day that the principal attended a lesson for her evaluation. It was one of the days that she did not use the iPad and the principal as a result *"...put it down as a negative thing as in 'where is the iPad?'"* She then discussed how she defended herself:

> *I told her I used aids and the iPad essentially is mine. I brought it myself. I mean I bought it (iPad) and the data show as well with my own money. I bought everything out of my pocket. Of course I will use it, but just not in every class. I can use other things. I can do without it.*
>
> (Teacher Sabeeka)

Her justification worked, however, as her evaluation stayed the same. Fortunately, her speaking out motivated the school administration to install data projectors in every classroom in their school, which changed Teacher Sabeeka's view. She now believes it is:

> *...okay to evaluate me on if I used digital technology or not. Now you have provided this for me it's ok to evaluate me and I have no problem with it. This is a good step. This is what I see now. This is an encouragement I see towards digital technology use. Before I just felt judged with no provision.*

In the section below, I outline the outcomes of a review I undertook with the teachers on how their schools were prepared to implement the new curriculum, in addition to exploring how well they accommodated the necessary means needed to facilitate the shift in teachers' practices.

7.6 School Administration

The Ministry of Education's annual budget for the academic year 2016-2017 was 1.726 billion Kuwaiti Dinars, equivalent to approximately £4.2 billion. This accounted for about 15 per cent of the country's total annual budget. The Ministry's budget was divided into many portions, the largest of

which salaries. Other segments included the supplying of goods, equipment, transport, construction, maintenance and miscellaneous expenses.

As part of supplying goods, the Ministry should have prepared their primary schools, in line with the new Grade One curriculum, to be technologically ready as part of the World Bank's educational reform, which stressed improving the quality of teaching and learning in state schools in Kuwait. The interviews with participants revealed that the reality of the situation was completely different than the one drawn up on paper. Teacher Fatma A. explained the situation in general for nearly all schools:

> *Every year the school gets an annual budget, but this year we too were told that there is no money. But you know where the problem is? If the Ministry sets a budget and tells the principal exactly what it is for, then it will be spent correctly; but when the Ministry gives money without restricting spending then the principal can take the money and spend it haphazardly. Some will paint the school, others will install data projectors. Each principal is free to do as they want. This is where problems arise, some schools will have data projectors and others won't. It depends on the principal, really. All they care about is how the school looks. And when teachers provide their own equipment, why spend their budget!?*

This example shows that there was no real control over how school budgets were spent. It was basically up to the head teacher to decide what they saw as fitting. When they found a shortage, they assumed or even believed that it was the teacher's responsibility to make up for such shortages out of their own pockets. Teacher Zainab A. wished that instead of having wasting money, "…*wall charts and flashcards, CDs and tapes are not needed. We can download them online [...] do not spend money on these things, rather spend money on what we need. We need at least a data projector in every class.*"

In the next section I will look at what school administrations and supervision departments offered teachers in order to facilitate their adoption of technology. I will discuss, based on the teachers' responses, what has been done by both sides to help teachers overcome the first and second barriers they face.

7.7 Facilitation of Adopting Technology in Lessons

Providing means and devices to teachers would recognisably simplify teachers' adoption of technology in their lessons. This was the first barrier faced when looking at change and starting to adopt technology in teaching (Ertmer, 1999). Having teachers buy their own devices is costly for them, although it helped teachers overcome the barrier and start integrating technology. Moreover, they would require not only a single device, as the survey data revealed other needs.

7.7.1 Providing Modern Technology Devices

During Kuwait's EDUTECH Exhibition and Conference in 2014, the Minister of Education stated their readiness to provide schools with up-to-date technologies to transform the current traditional classrooms into smart ones. But the minister failed to mention the need to professionally develop those teachers who would be using these new smart classrooms (Ramadan, 2014). At the time of data collection, the schools visited were not equipped, nor were they Wi-Fi connected.

Teacher Afrah drew attention to the fact that their head teacher held a meeting at the start of the school year instructing staff, "…*to use modern technology, and we* (school administration) *will provide data projectors and other necessities for all Grade One teachers.*" This promise in itself should have ensured that the first barrier (Ertmer, 1999; Park and Ertmer, 2008a) be taken care of and so concentration could be on overcoming the second barrier instead. They then said that while teachers were obliged to use modern technology, the administration did not keep their promise about providing resources, and as a result ended up having to, "…*spend around 800kd* (equivalent to approximately £2,000) *and get a data projector last year because we did not have any in school, then I got an iPad and a set of headset speakers which I use when I take my class outdoors for a lesson.*" The total for all these devices evidently accumulated to large sums of money. They added that although life is generally comfortable, "*there are still teachers who are not able to afford many things in their own lives, as they have other obligations.*" An expatriate teacher's salary scale in Kuwait differs than those for Kuwaiti teachers. They are paid less than Kuwaiti citizens. And because of that, Teacher Aisha A. was sympathetic towards them and expressed her sympathy and her disapproval of the situation her colleagues attested, proclaiming "…*expats, of which we now have one in the department, as you know, are paid less […] and they pay rent plus other life expenses. And they are expected to buy a data projector*!?" Teacher Aisha A. brought another fact to light that was not raised by other teachers: "*You know there are many, many applications that are useful but are not free either. This is also a point that is overlooked […] most of the apps that are good are not free.*" Thus, the amount needed to be spent in total is understandably a large sum, as mentioned above. Ertmer (1999) points out that teachers feel the need to overcome this barrier. In this case the school administration did succeed in overcoming the barrier, but not by fulfilling their role of providing and overcoming the barrier, but by obliging the teachers to take matters into their own hands and provide their own equipment themselves.

Teacher Afrah went on to explain that they had connections with high-ranking people in the Ministry of Education. She later added that they can formally ask for what they need and the Ministry will provide it, but they felt that this could take a long time, and that the Ministry "*should provide this*

without us asking." This showed that teachers did not have faith in the system, and did not want to wait or waste their time because they knew the answer from their administration would be, "*In all honesty we have no funds ... even the budget for our department is now cancelled, they (the Ministry) give us nothing, not even the CDs needed for the listening part of the curriculum*" (Teacher Aisha A.), a basic first barrier to change response (Ertmer, 1999; Ertmer et al., 1999; Ertmer et al., 2012). The teachers had in fact lost faith and trust in the system, lost hope, took matters into their own hands and went with the flow rather than just sit back and wait. Many teachers felt the same way, believing: "*It's hopeless to ask, so we don't ask. We just buy our own devices and get on with it*" (Teacher Aisha M.). The survey showed that 60 per cent of the teachers were using tablets, usually their personal ones. It was crucial for the Ministry of Education to be aware that teachers did need adequate equipment and time to plan how they would integrate technology in their teaching (Ertmer et al., 1999; Jones, 2004). Teachers in both Hong Kong (Leung et al., 2005) and Saudi Arabia (Alkahtani, 2017) have faced the same problems as those in Kuwait. Without the necessary equipment, technological integration is impossible to accomplish.

Another teacher, Teacher Aliaa, held a different point of view. Although she at first complained about having to buy devices herself because of their high cost, she later changed her perspective. At the beginning of the introduction of technology use she held the same position of discontent as all the other teachers. Later in the school year, she had a change of heart. She claimed that after getting used to using an iPad, she saw her students becoming more motivated to participate, as well as seeing an increase in students' attention span during class, so she started to feel motivated to keep using technology. This motivation consequently led to a change of perspective. Teacher Aliaa later considered the change in her students' behaviours justified the expense of the devices. She further on stated that if the head teacher, "…*provided me with the required devices, I would have to leave them at my workplace. As such, it is better to keep all my things together for myself.*" What the teacher meant when she said 'leave', was that when teachers are provided with a device by the ministry, it is technically loaned to the teacher by the school, and not theirs to keep. The respondent was here referring to a tablet computer. Thus, if they are relocated to another school, they are not able to take such devices with them. Therefore, teachers felt that it was easier to just get their own personal devices on which all their work and applications could be saved, rather than having to transfer their work from one device to another.

School administrations in general did not like teachers who – in their opinion – did not cooperate by buying their own equipment. Teacher Aisha A. clarified this point:

> *Since I started teaching, I understood what they wanted: um, spend your money, work without saying anything. If you say no you will be like the ugly duckling. And they tell you to your face you won't be evaluated as outstanding unless you do this and that and so forth. You will be hated if you don't do this, and they will talk to you from the tips of their noses, they won't treat you well. This occurs in all schools. If I were to stand up and say that I don't have an iPad or data projector, please buy it for me, in all honesty, they would say we have no funds. We have nothing. We wish someone would donate devices, but it's okay; for now, buy them yourselves, and when we have some we will give them to you.*

Of the 32 interviewees I interviewed, spread across four of the six educational districts in Kuwait, not one said that their school administration provided them with a tablet or a laptop computer. Every one of them had bought their own portable device. Most had to buy their own data projectors, portable Wi-Fi connection and speakers. Not one officially asked to be provided with either. Teachers most used digital device is the data show and a tablet as shown in Table 4.

Again, the respondents showed no faith in the system, and believed that it would either take forever or not happen at all. A couple of the teachers stated that when they verbally asked their supervisors or heads of department for devices, they received nothing. "*We asked the department to buy us equipment from the school's budget [...] We know that the school has an annual budget, but we do not see anything new from it*" (Teacher Ibtisam). Teacher Marwa confirmed the situation, saying, "*We have to ask in a written letter, and we have to wait and see if they will actually fulfil our request or not. It takes a long time to process through the committee.*"

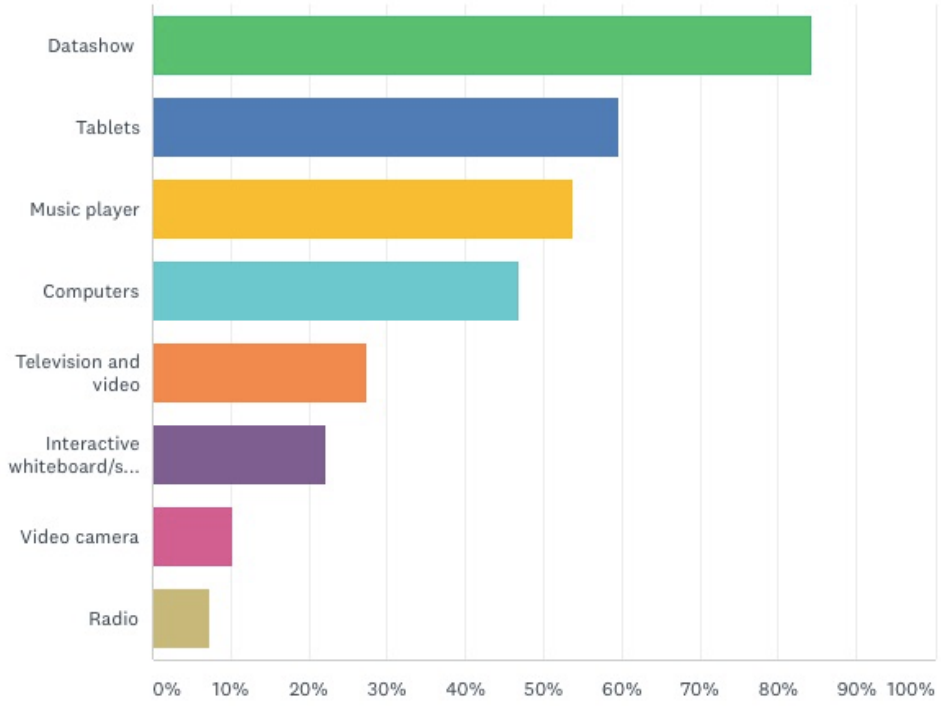


Table 4: Devices Teachers Use in Class

Furthermore, Teacher Fatma S. stated, "*If we just ask and wait it will affect our final evaluation. So, we really have no choice here.*" Another teacher, Teacher Hanee, explained she got her device because she did not want to be singled out, "*I just went with the flow and got my own … I do not want to be singled out of the group! I mean [...] if we wait, for how long will it be? That's not a solution, you know [...] it would affect me career-wise.*" All the teachers shared this feeling of not wanting to end up being the odd one out, thereby acknowledging their position by expressing their standing: "*When you see your whole group go ahead and buy their own stuff, you will of course do the same. You wouldn't want to be alone in such a situation!*" (Teacher Haneen). Teacher Layla shared the same mind-set, saying, "*We saw that everyone was bringing their own devices [...] even in other schools. So why should we be any different to them? As such, we went ahead and got our own.*" This indicated that school head teachers twisted the arms of their teachers indirectly in order to push them into spending money from their personal income to buy devices, or else their annual evaluations would suffer as a result. This situation again was another example of Ertmer's (1999) first order barrier which included "lack of access to computers and software, insufficient time to plan instruction, and inadequate technical and administrative support" (p. 48).

The teachers did not only ask to be provided with handheld or portable devices. Many mentioned wanting speakers, data projectors, Wi-Fi and technical support on school sites. Without these the teachers would not be able to successfully overcome the first barrier to be able to adopt technology in their teaching. This in effect would also affect the path of acceptance of using technology in their lessons (Ertmer, 1999). Furthermore, if no device was present, there was no possible way teachers were be able to integrate technology into their lessons. Luckily for school administrations, as well as the Ministry of Education, in the case of Kuwait, the teachers took the matter into their own hands and eliminated the barrier themselves by buying their own equipment to start adopting technology. Not all did that out of passion, it was often out of feeling obliged to do as they were asked to ensure being in their seniors' good side.

Furthermore, Teacher Aisha A. explained that sometimes they would pitch in together for data credit on a portable router and share it together amongst themselves in their department. Most teachers were bringing in their own Wi-Fi connection to school, be it a portable router or turning their smartphones into hotspots. The latter was a bit tricky because teachers are not allowed to use their phones during lessons, and therefore resorted to hiding, "*…my phone in my pocket to use it as a hotspot*" (Teacher Dana). Teacher Maali and Teacher Noura both did the same as well, but they said they kept the phone hotspot for emergencies only, because it used a lot of their data allowances. The teachers explained they needed Wi-Fi in school *"for songs and YouTube videos*" (Teacher Aliaa) which they were using

during their lessons, and not only for lesson planning. Teacher Fatma A. and Teacher Hanadi got around the no Wi-Fi problem by downloading materials at home. Teacher Fatma A. explained she used to use an application that played videos without the need for an Internet connection. Unfortunately, that application at the time of the interviews was no longer working.

On the other hand, there were some positive viewpoints and attitudes in other schools. While they were in the minority, teachers who held positive views did still exist. As Teacher Aliaa put it, "*Unfortunately our school doesn't have anything [...] there are other schools which do, but ours doesn't.*" Teacher Latifa and Teacher Rania both worked in the same school department and were very fond of their head teacher, agreeing that, "…*we are thankful for our headteacher who cares a lot [...] she got us TVs so that we could show data in every class*" (Teacher Latifa). Teacher Rania added that their head teacher was, "…*very keen to have everything perfect, so they installed data projectors and TVs and then she had had all the textbooks and teachers' guides put onto CDs and this has been going on for, like, three years now*"; this indicated that their school was adopting technology a couple of years before the new curriculum started to be applied. However, no teachers mentioned their schools providing them with tablet computers, which were the devices most often chosen by teachers. In Teacher Maryam N.'s school, there are "…*data projectors installed in our Grade One classrooms because they (the administration) want us to use technology in our teaching [...] so, on the positive side, there is less for us to carry and connect.*" However, this was far from the norm in state schools as most teachers kept asking, additionally found in the survey responses, their school administrations to provide them with materials or equipment to facilitate their technology integration. They repeatedly, in both the survey and interviews, asked for iPads, speakers and data shows to be readily available for use in their schools.

School administrations played a vital role in encouraging and providing the means to facilitate the path for teachers to adopt technology in their teaching. While they provided encouragement most of the time, a common problem was that they rarely facilitated the path for teachers to adopt technology use in their lessons.

7.8 Encouragement to Adopt Technology

Encouragement to use technology by head teachers or heads of department was also seen during the interviews. All interviewees agreed that when they use technology in their lessons, they get, "…*praise when they see you using a tablet computer in class … it makes them very happy and pleased*" (Teacher Hanadi). Teacher Leena stated that, *"…the principal and the head of department always praise and*

enjoy seeing us being up to date", and they, "*…honestly all encourage us a lot equally. Whenever they visit my lesson, they always thank me for using technology*" (Teacher Aliaa). So, one can infer that once the school administration is happy the teachers will also feel happy and at ease. For this reason, they made certain that this condition was maintained. Thus, most teachers ensure they use technology, "*If I feel that today the principal will attend my lesson, I will take my devices with me*" (Teacher Eman). Even if teachers were uncomfortable with the use of such devices, they would nonetheless utilise them simply to please their seniors and ensure good end-of-year evaluations, which in the end is what the teachers feel counts most. This attitude indicates that teachers were disregarding the possibility that the use of technology itself might not enhance their teaching (Ertmer and Ottenbreit-Leftwich, 2013). The teachers needed to learn and understand how to use technology effectively. They needed to use technology not only for the sake of impressing their supervisors, but to support their subject and teaching primarily, and not just worry about their yearly evaluation.

Alternatively, Teacher Aisha M. described a very cooperative and encouraging environment in their school. She described their head teacher as one who listened to their needs and provided whatever was needed to facilitate the adoption of technology in lessons. Furthermore, "*They appreciate what we are doing.*" Head teachers seeing their teachers be creative in their use of technology made the teachers happy, and head teachers showed their appreciation through constant praise and encouragement. Such constructive praise was mentioned by a number of teachers from different educational districts. This showed that, although there was a lack of cooperation in meeting teachers' needs, constructive praise and encouragement did affect teachers' performance, and drove them to perform better. This was also found by Alkahtani (2016, 2017) when looking at ICT integration in Saudi Arabian schools. The praise the teachers got from their head teachers, supervisors or heads of departments encouraged them, as well as giving them enthusiasm to work harder to innovate in integrating technology into their lessons. This in return would be mirrored in their evaluations, which, as previously mentioned above, was a major factor for teachers to do whatever it took in order to get highly evaluated by their superiors. Additionally, Teacher Aisha M. added that their head of department was also active in terms of the use of technology, as they were, "*…always looking for any updates, such as programs or apps, which can teach us all the time. They also really encourage us to use technology all the time in our teaching.*"

After discussing the teachers' training programmes and their preparation, I now move on to talk about teachers' knowledge in relation to using technology in pedagogical practice, in addition to considering how technological pedagogical and content knowledge affected teachers' practices.

7.9 Teachers' Knowledge

The majority of teachers resigned themselves to using technology, though only adopting technology inasmuch as using their iPads for slide-show presentations. This is because they have not been trained appropriately to understand, nor learn how to integrate, technology into their teaching as explained in the previous analysis section. This resulted in teachers lacking technological, pedagogical and content knowledge (TPACK) so as to be able attend to their lessons' needs. Teacher Zainab J. is an example of this. She concluded that for her, "*…teaching before without technology was good. And now I started using the iPad and I still feel my teaching before was better.*" Despite the fact mentioned earlier of her being encouraged to use songs, she elucidated further on that; she, just like Teacher Shouq, did not feel that the use of technology added anything to her lessons. She evaluated her performance in class as a teacher being better before the use of technology.

Teacher Zainab J. rationalized that although she just used KeyNote in data shows for presentations, it took her, "*…a lot of time to adapt and learn how to use it*". Thus, she had "*limited the number of activities*" she usually did during her lessons because "*it consumes a lot of time*" to prepare a presentation for every lesson. The results she saw after all the extra effort she had to put into her lesson planning were meaningless, because her students' outcomes the previous year were "*better without the use of the data show*". She reasoned this could be because she was new to the innovation, in addition to not knowing how to integrate technology in a fitting manner to serve her lesson goals. She conceded when that she first started doing slide-show presentations, her students became "*excited for a little while and then they started to get bored.*" She reasoned that the boredom was a result of them sitting at their desks while they "*look at a screen*"; whereas before that, during her lessons, there was some active student interaction where she, "*…had them come up to the board and interact together*" as a class.

So, in Teacher Zainab J.'s own opinion, when she integrated technology in the only way she knew how, this resulted in her being "*confined*" from her usual approach in class. She expressed that she was not able to "*move around*" in her class during her lessons, between students, as she must stay close to the device so that she could constantly "*flip through the slides*" during a lesson. She confessed that she agreed to integrate technology only because the Supervision Department had, "*…asked us (the teachers) to use it for the idea of using it*", regardless of whether the manner was befitting or not. She further emphasised that while she was aware, "*…there are many other uses, other than just displaying videos*", she reasoned once more that she and other teachers, "*…just don't know how to do it.*" That was because the trainers at the sessions she attended did not explain or show them any

digital technology related skills, but rather insisted that teachers must integrate technology into their lessons as part of their annual evaluations.

All the considered above imply that Teacher Zainab J.'s group of teachers were not able to overcome the lack of knowledge barrier, although later she herself adopted technology integration in her lessons, regardless of whether it was used effectively or not. She embraced its use to make certain she was not left behind, as well as to avoid her supervisor's dissatisfaction with her performance. Nonetheless, Teacher Zainab J. was not the only teacher who felt uncomfortable in using technology. The questionnaire survey for Question 7 results showed while over 44 per cent of teachers were very comfortable with the use of technology, but still around 4 per cent who were not as shown in Table 5. Nonetheless, because of the limitation of the questionnaire, we cannot really say if the teachers' comfort relates to only using their own devices, or if they meant using them as teaching aides.

This is one of the major barriers that affected teachers directly, causing them to postpone using technology in their practice. Researchers, including Ertmer et al. (1999), Ertmer et al. (2012), Ertmer and Ottenbreit-Leftwich (2013) and Harris and Hofer (2011), have found that although most teachers are enthusiastic to use technology as part of their teaching, they still face an obstacle in that they lack the appropriate skills to ensure their readiness to implement technology in their lessons. The examples mentioned from the data collected show that although teachers were using technology, they did not feel they possessed the technological content knowledge needed for effective innovative teaching. Likewise, Al-Awidi and Aldhafeeri's (2017) study in Kuwait found that teachers needed and had the desire to obtain further technical pedagogical knowledge, which would in time shift teachers stance to overcome this barrier. Moreover, AlHashem and Al-Jafar's (2015) study of primary science teachers in state schools in Kuwait also showed that teachers lacked the pedagogical knowledge to connect between content and technology in their lessons.

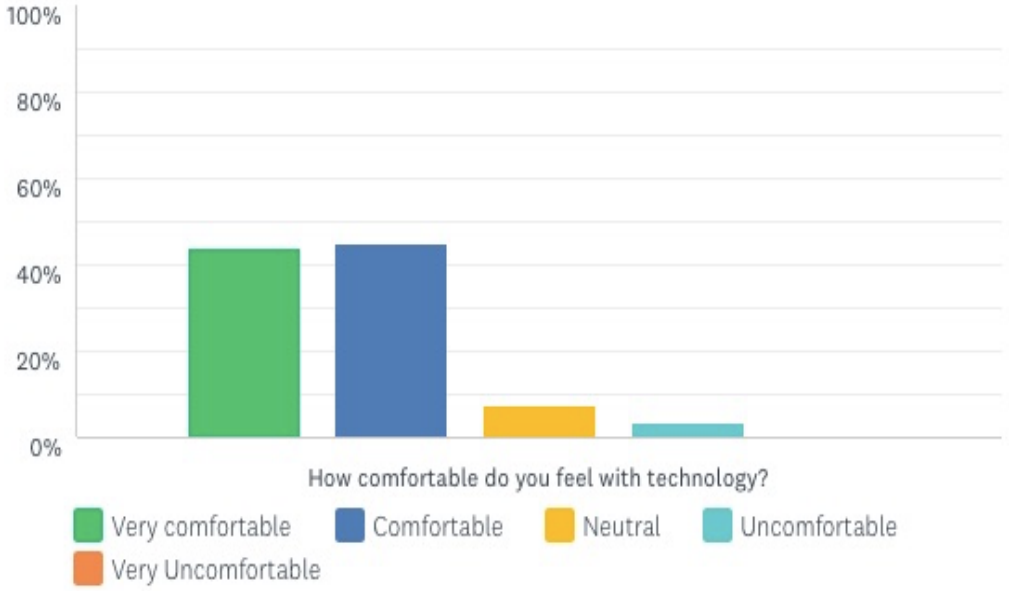


Table 5 : Question 7 SurveyMonkey Result

This has led teachers to perceive technology integration as *"a burden"* (Teacher Zainab J.) in use, rather than a concept that could make their lessons easier to present or more fun to accomplish. By contrast, Teacher Zainab A., a technology enthusiast who stood out from my respondents, believed the teachers' negative feelings towards using iPads was because "*they are not trained*" appropriately. If teachers were trained through a programme where clearly identified skills were addressed and the transfer of related knowledge achieved, then more teachers would embrace and accept the concept of change in their practice. She pointed out that everything, "*…you use for the first time is hard and difficult*". But once teachers give it more time, they will soon start to learn the skill of being more time-efficient, e.g. in moving their aides from one class to another.

Teacher Zainab A. believed the teachers were giving up on technology too easily by looking, "*for the easy way out*" rather than try to self-learn themselves so as to progress as teachers. In her own case, to facilitate the process of connecting and setting up devices, she explained that she taught her students a process that they must follow every time she goes into class. Teachers who establish rules and a standard procedure that students follow will be able to avoid wasting time connecting devices during lesson time (Lim et al., 2003). According with Lim et al. (2003), Teacher Zainab A. was an example of how to overcome that barrier. She taught her students rules and procedures to follow that helped her save time at the beginning of every lesson by them, *"…know(ing) the drill. They open my bag and put out my devices. I just watch them and its easy for them and for me."* She proved that Lim et al.'s (2003) suggestion worked and was not only a hypothesis.

Whereas some teachers confessed to being "*not so good at it*" (Teacher Sabeeka), this did not stop them from pursuing the integration of technology, many of them considered themselves self-taught as they sought knowledge to use the iPad in their lessons individually. Several teachers agreed they were constantly "*look(ing) for new things*" (Teacher Aisha M.) to keep themselves up to date as regards technology use. That urge to learn more was because most of them admitted that they "*enjoy it*" (Teacher Sabeeka, Teacher Haneen, Teacher Maali, Teacher Aisha A., Teacher Aliaa, Teacher Hanadi, Teacher Latifa, Teacher Layla, Teacher Leena, Teacher Lina, Teacher Marwa, Teacher Maryam N., Teacher Noura, Teacher Zahra, Teacher Zainab A.), as mentioned earlier. Regardless of the teachers' eagerness to use technology, they had first to become familiar with the use of their chosen digital devices. Once they understand how to use them, this can affect their lessons outcomes positively, and so they then feel encouraged to start using technology in their lessons more comfortably. Teachers differed in how much time and knowledge they required to reach their own personal level of comfort to use technology. This resulted from them having started to integrate technology later than their colleagues who were already comfortable with its use. To overcome a barrier where they lack sufficient knowledge, each teacher will need to proceed in her own time and at her own pace to be able to digest the new knowledge.

Most of the teachers used the Internet, while a few attended privately-led teacher professional development courses, such as Teacher Zainab A. who, as she said herself, was, "…*always on the lookout for training*" on advertisement flyers sent to her school or adverts on social media. Those who resorted to private courses did so because they felt they were denied proper preparation by the Supervision Department at the Ministry of Education. Despite the level of funding being put into the training programme by the Ministry, almost all teachers the confirmed lacking adequate skills, in addition to knowledge, to enable them to implement technology fittingly. This point, that emerged from my data, has been found repeatedly in many other research studies done on various reformed educational systems. Governments invest vast sums of money into reforming schools with technology but neglect to invest in preparing teachers to learn to use these technologies (Young and Bush, 2004). In line with Ertmer's recommendations, the training by the Ministry of Education should not only promote technology integration into lessons, but also focus on educating teachers to design their own technology-enabled learning environment (Brantley-Dias and Ertmer, 2013; Ertmer and Ottenbreit-Leftwich, 2013). Likewise, Koehler et al. (2007) and Angeli and Valanides (2009, 2013) have found this notion to be true in many research studies worldwide.

Hew and Bruce (2007) point out that many governments have realised that integrating technology into teaching is a factor that impacts positively on learning in schools. In return, many of these governments have spent substantial amounts preparing teachers and supplying schools with the

necessary means to facilitate a smooth transition to integrate technology in a proper or beneficial way. Based on the teachers' responses, in the case of Kuwait, there is a gap between the Ministry of Education and the schools. The Ministry encourages and obliges teachers working in state schools to adopt technology as part of modern teaching. But the outcome of this positive decision has not been as favourable as expected. Based on my respondents' reactions, the Ministry of Education in Kuwait has not prepared its teachers in a fitting manner. The data support Alharbi's (2012) finding that training provided by the Ministry conveys limited knowledge to teachers. Similar to Alharbi (2012), my data expose teachers' complaints regarding the lack of training they had. And for those who have had training, they complained that it was inadequate to serve the intended purpose. From this perspective, they left training with no new skills learnt.

Teacher Aisha A. spoke about her personal experience, stating neither the supervisors whose courses she attended nor the ones that supervise her in school, "…*showed us (teachers) ways to use technology or how to use the iPad in an innovative manner.*" She later explained that the supervisor, or head of department, depended on the teachers themselves to develop their own pedagogical knowledge without help from their seniors. They usually came during lesson visitations and observed what the teachers were doing, whilst asking the teachers to "…*be creative in using technology*", without having led them on or supplied them with any technological knowledge. Appropriate technology integration should be measured as the way teachers teach the curriculum while maintaining the use of reliable and productive activities that they feel suit their students (Hennessy et al., 2005) and not be forced into integrating technology into their practice when they do not believe in its benefits, but only to satisfy their supervisor, which is the case in Kuwait. The interviewed teachers repeatedly affirmed they have not been prepared to integrate technology, which resulted in them being inadequately prepared.

Teacher Aisha A. added that the supervisors at the end of their development courses asked teachers within their group to show examples of which applications they were using for Grade One. In response, these teachers connected their own iPads to the data show and just spoke in general about applications they used in class, and not vice versa. There was no real knowledge or skill involved. She concluded by expressing her feelings, saying, "…*it is not them who teach us how to use it, it is you what are you doing*" that they saw during the teacher development courses she attended. She has been using her iPad during lessons by, "…*just using applications. That is it.*" She repeated this several times, emphasising that the teachers depended on themselves to learn any necessary technological pedagogical knowledge, "…*specific knowledge or goal-oriented skills*". Any progress they made would just be using a new application, not necessarily targeting a new competence or skill. That was the result of not having proper knowledge or targeted skills with which to implement technology

integration. Teachers need to understand and see how technology integration can benefit their subjects if they are to become innovators and embrace change. Therefore, it is the trainers' task to "provide the necessary experiences required for developing the knowledge, skills, and dispositions that teachers need" (Niess, 2011, p. 300) in order to change their perspectives when introducing new skills which they, as teaching supervisor want, such as having teachers integrate technology into their teaching methods.

Teachers needed to look beyond application games and the common use of slide presentations. They need to change the way they use technology to help achieve the purpose of beneficial technology integration. Teacher Eman agreed that the paid-for applications she used "*have more to them*" than the free ones, such as higher levels in games for example. This she believed provided her with a larger platform to develop her teaching techniques on, which she found added positive results to the students' outcomes as students memorized phrases in a speedier and more enjoyable style. Koehler et al. (2013) comment that teachers need to look beyond the common use of the applications used, to "reject their fixedness" (p. 66), and instead customise them to serve their own set pedagogical purposes.

The responses of the interviewed teachers reached a consensus on one point: the need for a targeted teacher professional development programme dedicated to preparing teachers to implement the new curriculum using digital technologies to support and enhance their teaching practice. These targeted training programmes, if done appropriately, could influenced teachers' perspectives towards the use of technology in their teaching, which in return would help teachers overcome the second barrier. The studies by Alharbi (2012), Al-Awidi and Aldhafeeri (2017) and Aldhafeeri et al. (2016) in Kuwait found very similar results in that their teacher samples also criticised the lack of proper training provided by the Ministry of Education at the time of making the decision to implement technology in state schools in Kuwait.

The Ministry of Education and the Supervision Department must surely have acknowledged the fact that developing a targeted TPACK programme is not an easy task. "Consequently, intensive, coordinated and dedicated systematic efforts need to be planned and implemented in pre-service and in-service educational programs in order to develop teachers' ICT-TPACK" (Angeli and Valanides, 2009, p. 167). This means that the short irrelevant professional development training programmes they have undergone in the past were not effective, not useful for the teachers to develop their pedagogical knowledge and in turn reach the targets the Ministry expected of them. For teachers to change their beliefs and knowledge is a challenging task. Moreover, Koehler et al. (2013) stress that the challenge is even greater if it is done in a time-intensive manner, which was the case with Grade

One training, which was only about two weeks long. Additionally, Koehler et al. (2013) point out an error that most professional developments programmes make, a "one-size-fits-all approach to technology integration when, in fact, teachers operate in diverse contexts of teaching and learning" (p. 62).

During the Grade One training, there should have been a part focusing on the use of technology as a tool and not, as Supervisor Al-Asimah stated, it being assumed that teachers already knew how to use the iPad. Supervisor Al-Asimah said that there was no need to teach them, rationalising that,*"...do you think they need guidance on using technology? Your phone is technology!"* It was not appropriate for the Supervisors to expect teachers to self-learn during a training session while they, the supervisors themselves, did not have proper knowledge to guide them on the subject. Even the most recent graduate teachers repeatedly stated they, *"...did not learn anything from them. They were not using technology"* (Teacher Shouq) when referring to teaching aide modules during their studies. This once again proved that even during college studies teachers were not prepared to implement technology in education.

An extra effort has to be made if educators are to "understand how different technology tools can facilitate students' learning within their own content areas" (Brantley-Dias and Ertmer, 2013). My data show this was the exact situation in Kuwait. This is where the gap lies and what all the teachers interviewed asked for, but the supervisors denied facing the reality of their neglect to fill these gaps. Supervisors who train teachers need to overcome thoughts of, *"...the teacher is a teacher. She is old enough to know what to pick, what to have in her classroom"* (Supervisor Al-Asimah) and acknowledge that even teachers require guidance to shift their more traditional pedagogical knowledge to something more technological to be able to succeed in implementing a technological student-centred learning environment. The trainers at the Ministry need to understand that their task is a multipart one. It involves more than presenting slides and teaching skills theoretically. Supervisor Mubarak Al-Kabeer confessed that, *"...we (supervisors) were not trained by specialised people"*, reasoning if the Ministry expected them to do more than they in return had to, *"...get specialised professional trainers with the materials needed to present and then we (supervisors) can do the same."* In this way, teachers would learn as well as feel more encouraged to adopt its use in their lessons when they see that it does in fact affect their practice positively.

Supervisors in Kuwait who train teachers do not have the necessary skills or knowledge to train teachers. As Angeli and Valanides (2013, p. 207) state, "The idea that learners will develop these mental models by themselves can only be characterized as wishful thinking." Supervisor Mubarak Al-Kabeer said quite honestly that she lacked relevant knowledge:

> *I don't know otherwise ... that's all I know how to use and nothing more… and I challenge you to find any supervisor who knows more than that ... and if they did they may know app names but not how to use them ... app names only ... and he may use them or just "be bragging or showing off in front of the others", but how to use them or apply them in class, no they don't know.*

This was the exact point Supervisor Al-Asimah was hiding behind. She would not admit that she herself and her colleagues were not suitable to train teachers because they themselves lacked the skills needed. As well as themselves, they were in need of skilled professional trainers to train them because they themselves were not capable of delivering information to teachers, as Supervisor Mubarak Al-Kabeer admitted. "Expecting a single course in educational technology to serve this need for preservice teachers is unlikely to be sufficient" (Brantley-Dias and Ertmer, 2013, p. 121), let alone when the trainers themselves lack the required knowledge. It is not realistic to expect teachers to change their pedagogies without effective guidance. There are a number of training strategies which the Ministry could have followed, which they did not. Geer et al. (2017) suggested that some schools will provide comprehensive professional development with a great deal of technical support, while other schools may choose to provide teachers with the tools and allow them time to explore them before they reach the classroom. The data collected in the study showed that in Kuwait, the Ministry to Education did not present or follow a clear training strategy with the teachers.

A mix of responses emerged from my respondents during the interviews as the teachers and I discussed their knowledge regarding their preparation to integrate technology, with them as innovators, into their lessons. For teachers to integrate technology into their lessons, they need to have acquired technological pedagogical content knowledge. Teachers without some level of knowledge related to using technology as part of their educational knowledge will not be able to adopt digital technologies in their teaching practice (Ling Koh et al., 2014; Koehler et al., 2013), because their view of technology and how to use it directly influence whether they adopt technology in their lessons or not (Hew and Brush, 2007; Lowther et al., 2008; Inan and Lowther, 2010). Once teachers overcame their lack of knowledge barrier, their integration of technology will be much stronger and effective (Ling Koh et al., 2014). The key to any educational reform or educational improvement plan is to prepare teachers appropriately, which in this case means to prepare teachers with knowledge of the educational uses of technology. (Angeli and Valanides, 2009; 2013). Previous studies have found that teachers who were not prepared adequately to use technology educationally failed to teach appropriately with it (Angeli and Valanides, 2009; 2013). These points confirm the importance of preparing teaching in a precise manner, in particular focusing on technological pedagogical knowledge.

It can be inferred from the data there is a shortcoming as a result of the poor training teachers attended via the Ministry of Education. Teachers across all grade levels in Kuwait kept repeatedly saying the same thing: no suitable training was given to them prior to technology integration (Al-Awidi and Aldhafeeri, 2017). The Ministry of Education, jointly with related Supervision Departments, needs to plan more targeted teacher professional training programmes to help teachers overcome their lack of technological pedagogical knowledge. Snoeyink and Ertmer (2001) highlight the significance of providing curriculum-targeted training for teachers, which includes directed technological pedagogical skills depending on grade-specific content. These training sessions can encourage teachers to expand their practice once they have transformed their pedagogical knowledge into knowledge more technology-related.

Teacher Eman added she did not acquire any pedagogical knowledge during the courses she took presented by the Ministry of Education. She explained that their presenting supervisor on their Grade One preparation course referred to technology use solely as slide-show presentations. She in return felt that this ignored a lot of knowledge that they as teachers need to integrate, she clarified, "*…PowerPoint is not actual applying technology use. If there was actual applying of technology use, then we at least know what to do with it in class.*" Therefore, as a teacher who did not want to be left behind, Teacher Eman felt she needed to resort to attending private professional development courses, which she argued "*cost quite a lot*" of money. But she felt obliged to pay and did so because she understood that, "*…it is not easy to learn. You need to dedicate a lot to learn*" how to integrate technology into your lessons in an innovative manner.

Teacher Eman later explained that because private professional development is quite costly, she additionally depended on YouTube video blogs where other teachers like herself talk and explain techniques they themselves use in class that work. She added that she gained vast technological pedagogical knowledge from these sources, explicating that she would go, "*…in YouTube from one video to another, and from one site to another for hours. It is so fascinating the ideas out there. I used to have zero creativity but now I have started to think outside the box*" and was now able to, "*…use the iPad in an enjoyable purposeful manner*" during her lessons, although at the start she was "*very worried and scared*" to take this step. Teacher Eman, as well as Teacher Rania, mentioned her usage of an application that had all the curriculum books in eBook form and projected it through a TV already mounted in class so the students can follow her using the workbook where she fills in solutions to practice questions, "*which makes it easy for them to follow*" (Teacher Eman). They can see the same page the teacher is projecting in front of them on the board, "*…even girls that sit at back*

of the class can follow what I (the teacher) am doing" (Teacher Rania). They explained it was easier for the students to see where the answers go and copy them into their workbooks.

Agreeing with this, neither Teacher Layla nor Teacher Mashael could afford to pay for private development sessions and so had to resort to YouTube, in addition to online teacher blogs. Teacher Layla explained her situation in which the supervisor she worked under was "*kind of clueless*", as he was recently transferred from secondary level supervision to primary. She added that although he did encourage his teachers to integrate technology, he did not provide them with any pedagogical knowledge nor "*any guidance*" to follow. She felt that YouTube provided her with the assistance she lacked, especially since she was in her, "…*first year using the iPad in class.*" Moreover, she found a channel to follow that helped her to obtain new ideas, as well as videos which she utilized as part of her own lesson presentations that, "…*give a perfect presentation of a letter*" being taught, for example. However, she did admit not to have always depended on technology, but favoured mixing the iPad and more "*physical activities.*"

The above is an example of a teacher who lacks TPACK. As discussed in Chapter 2, teachers have been criticised for using technology to replicate conventional methods of teaching (Hembre and Wrath, 2020). Because of that deficiency, she used videos to substitute for her role as a teacher in class, thinking that was the ideal integration of technology, rather than using technology to supplement or aid her in delivering her lessons. It is seen in the teachers' responses that they were using technology in their classes thinking that what they were doing was student-centred learning, while in reality it was still a teacher-centred class. As Angeli and Valanides (2009) suggest, while some teachers are using technology to deliver information (in most cases, based on collected data, presenting information through YouTube videos), it is not it being learner-directed (p. 161). Kramarski and Michalsky (2015, p. 91) note that when "teachers consider knowledge as content to be transmitted (i.e., traditional view), then they may conceptualize instruction as a product to be delivered". Failed digital interface implementation in the classroom is frequently explained by a lack of compatibility with the pedagogy. The emphasis has changed from technology itself to the awareness, skills and attitude of the teachers towards technology (Hembre and Wrath, 2020).

Teacher Maali said the only preparation she got from the supervision or head of department was "*just application names.*" She later explained that their help was very minimal as there was just a very brief demonstration regarding a list of applications led by teachers, but no real skills. She went on to state that while she did "*genuinely enjoy*" using technology, she also knew it was, "…*important to know what you are doing with it, and practise what you will be doing.*" While she did that herself, she still felt, just like her colleagues, that her way of integrating technology in class was not using it to its full

potential. Teacher Niveen had a similar stance, as she too claimed that she was just shown a list of applications but none that "*impressed*" her, describing how they just told us, "…*the application name is this and use it for that*" without any targeted skills being presented. When she asked about what skills they were presented with, she replied, "…*unfortunately we saw nothing of that, we all do it alone, in our own way.*" The effect of the teachers' choice of applications depends on professional judgment by teachers as to how these applications can be integrated into other activities, as well as the acknowledgement of the need for the teachers' current pedagogies to be modified (Hembre and Wrath, 2020; Geer et al., 2017).

Moreover, Teacher Aliaa explained how she first started integrating technology using her laptop and PowerPoint software to give presentations. Then, because of the laptop's weight, she switched to an iPad. It has the advantage of access to the Apple AppStore where she finds vast numbers of applications to choose from, most importantly the KeyNote application, which she described as a "*PowerPoint substitute.*" But although her choices expanded, Aliaa still pointed to the fact that they as teachers lacked the knowledge to use technology to its full potential, explaining, "…*we all know how to use the iPad but the thing is how do we use it in class? It is not just about downloading applications and that is it.*" This lack the teachers were experiencing could have been related to more than one reason and not necessarily confined to just owning a device. Teachers need a lot of time to learn and to preview accessible information that will help them gain knowledge that can be put into use in their lessons (Hew and Brush, 2007). A number of researchers have found that even when the amount of technology used in teaching increases, it does not equal an actual shift in teachers' pedagogy. What is needed for change to occur is change to the manner in which teachers teach in their daily practice (Hermans et al., 2008; Koehler et al., 2013). The confusion about using iPads essentially indicates that professional learning is vital to ensuring that they are used in a sound pedagogical way. Teachers need to be introduced to the variety of pedagogical approaches that allow the use of iPads so that they can critically examine and evaluate the best student learning approach (Burnett et al., 2017; Geer at al., 2017; Marsh et al., 2015).

Teacher Zahra had a similar experience. She too started out integrating technology by using her laptop. With time, she too gave up using it because of the extra weight that she had to carry around. She then switched to an iPad and got herself a small data show device too, so it,"…*doesn't use much electricity so I do not face problems myself.*" She admitted that at the beginning she felt the need to learn what to do with technology in her lessons, as she did, "…*not know how to use technology at all.*" She described how she started just like all her fellow teachers by using slide-show presentations. She portrayed her slides as "*motionless*", while now with the iPad they are "*different*", because she can now add sound and video to her slides. That in her opinion makes it more attractive for her

students, who as a result pay more attention in class, in addition to the iPad broadening her choices by adding games for practice during class as well. She confessed how at first the idea of using technology distressed her, but then became enjoyable "*after she got the hang of it.*" In line with the other interviewees, she stated technology made her lessons "*much easier*" to plan and teach with the help of her colleagues. These teachers had no guidance to follow and had to depend on themselves, making their adoption rate slower. She learned to integrate her iPad into her lesson plans with the help of her colleagues, because neither the trainers nor her supervisor helped in that area. "*They did not show us (attending teachers) any applications*" (Teacher Zahra), so she learned from a teacher who did a presentation in school about using the iPad to assist with learning, and she "*learned a lot from her*". Teacher Zahra was fortunate to have had the chance to learn from one of her knowledgeable colleagues, which in turn encouraged her to start using technology in a way that served her lessons, rather than just adding it as a tool without some change to her teaching practice.

One of the younger interviewees, Teacher Reem, had a slight advantage over her older colleagues. At the time of her interview, she was in her second year of practice, she explained how, when she was in college there was a compulsory module for teachers to pass to be able start their fieldwork course before graduating. The module was, "…*an educational workshop for teaching aids.*" The material covered depended on the module instructors themselves. Teacher Reem described herself as, "…*lucky enough to have had a lecturer that was into technology*", rather than one that was more into "*teaching aids involving making charts and styrofoam figurines.*" But then again, she stated that regarding the iPad specifically, "…*we (the teachers) self-taught ourselves.*" But she still acknowledged that the module lecturer in college jumpstarted her technological knowledge to make her confident and gave her the understanding to integrate technology into her lessons in an effective manner.

She later added that YouTube was filled with resources which they used and learnt from and could use as Grade One videos that explained how to write letters. She mentioned an example, a specific one that she always used and her students follow as they, "…*mimic pen movement in the air by moving their hands*". This has helped them as teachers to present as well as practise their letter-writing skills, but again it used to substitute for the teacher's role, although it still has students participating by mimicking actions.

Teacher Haneen had a more fruitful experience in gaining technological pedagogical knowledge. That was because she was one of the luckier attendees to be placed in a section where the supervisor had TPACK knowledge themself. Teacher Haneen described the sessions she attended as a mix of collaboration work between the presenting supervisor and teachers. She portrayed the sessions as

"*beneficial and enjoyable.*" Their group undertook some "*practical work*" during their sessions in the form of "*model lessons*" where they were shown and taught how to use applications on the iPad in a manner that served their lesson aims. She described their supervisor's explanations as clear and effective, as well as, "*…the actual (model) teaching in general and her advice and notes were very beneficial for us.*" In turn, this advice helped her take a step forward towards integrating technology into her teaching, and that was because she understood and learnt how to use it beneficially, and not just as an addition to her lesson plans.

These data indicate that teachers were aware of the importance of learning proper technological pedagogical skills from professionals in their field, in addition to ensuring their use of technology supported their subject content in accordance with both Pope and Golub (2000) and Shulman (1987), who emphasise that the use of technology in teaching "should be a naturally supporting background for both the content and the pedagogical content knowledge*"* (Pope and Golub, 2000, p. 90; Shulman, 1987). Subsequently, since no skills or knowledge were gained in general, most teachers considered themselves self-taught. They just kept doing what they knew how to do: relying on the KeyNote application for presentations where they embedded videos as part of the slides. In addition, some teachers used other game applications which they were aware of to serve language practice. The deficiency in knowledge that the teachers suffered from directly affected their lack of technological and pedagogical knowledge, which was one of the major barriers that emerged from the interviews.

Teacher Latifa summarised a feeling her colleagues seemed to share:

> *We have been using technology for the past three years but it has been in the same way consistently. There are new things that come out that are for sure great to use and we are not making use of them, but we do not know about them. And we don't know about them unless someone comes and points us in their direction or shows us what they are.*

7.10 Conclusion

In this chapter, I have discussed teacher training programmes in Kuwait. I explored with my respondents how this had affected teachers' professional development in state schools of Kuwait. I have found that although teachers did attend various training programmes run by the Ministry of Education, as well as teacher-led workshops and model lessons, they all agreed that the programmes they attended proved not to be effective in developing their skills and knowledge to the educational

standard they as teachers sought. Teachers found the training to be theory-based and not aimed to expand their skills as teachers, in addition to not being effectual in evolving teachers' positions in their classrooms.

Teachers found themselves confronting a newly presented curriculum to teach without adequate preparation by their superiors, be it their supervisory department or the Ministry of Education itself. I found the teachers were unhappy about the position they were put in, whereby they were responsible for undertaking the task of implementing the new curriculum by themselves, in addition to having to take upon themselves the task to self-teach or self-develop themselves. But because of the situation they were in, the teachers did in fact give in and looked for sources to help them overcome Ertmer's (Ertmer, 1999; Ertmer and Ottenbreit-Leftwich, 2013) second barriers.

Additionally, almost all the teachers were not so keen at providing their own devices either. There were some school administrators who did prepare their schools, by installing new technologies, which facilitated the technology integration process for their teachers by eliminating Ertmer's (Ertmer, 1999; Ertmer and Ottenbreit-Leftwich, 2013) first barriers. But that was not the case for most schools in Kuwait.

In the next chapter I will discuss the teachers' rate of adoption of technology use as well as their adoption levels. Their levels and rates are categorised based on Roger's Diffusion of Innovation theory (2003; 1983). This furthers the discussion undertaken in this chapter by exploring in more depth the differences in teachers' practices with regard to the use of educational technology.

Chapter Eight

8. Diffusion of Technology Integration in Kuwait

8.1 Introduction

This chapter discusses the data in relation to the study's second question. It addresses the rate of teachers' adoption of technology as innovation. I have classified the teachers into adopter groups based on Roger's adopter categories. Additionally, the analysis and discussion evaluate whether the approach to using technology in teaching was in fact, at the time of data collection, diffused and adopted by its targeted society.

8.2 The Innovation

'An innovation is an idea, practice, or object that is perceived as new by an individual or another unit of adoption' (Rogers, 2003, p. 12). An innovation does not necessarily mean the introduction of a new idea or invention (Sahin, 2006). It could be any concept that is newly introduced to a specific social system. In this thesis, the targeted social system is English language elementary teachers, specifically those in state schools of Kuwait. The innovation introduced was the adoption of technology integration into their lessons. While many of the teachers had already been integrating technology for the previous couple of years, not all teachers in Kuwait have integrated technology into their lessons. Moreover, they were not officially asked to officially integrate technology into their teaching by their Supervision Department up to the 2015–2016 academic year. Although integrating technology into teaching is not a new concept in education, it was still considered in my targeted social system as something new to accept and adopt in their practice.

8.2.1 Rate of Adoption

Rogers (1983, 2003) and Rogers and Shoemaker (1971) explain that any new idea presented into society is not only about the innovation (idea) itself, but also the approach via which it is presented. The manner of presentation chosen is critical as it helps the adopters overcome barriers, which in return motivates them to adopt and diffuse the innovation. Both Robinson (2009) and Rogers (2003) believe that when members converse positively and communicate within the targeted social system, it contributes directly to the speed of adoption. Positive responses from members towards innovation usually result in speedier diffusion (Robinson, 2009; Sahin, 2006; Rogers, 2003), especially sharing experiences with successful adopters. This contributes to positive outcomes and thus higher rates of adoption. Moreover, this positivity gives one encouragement to adopt. Sahin (2006) explains that being uncertain about an innovation is a vital obstacle to its adoption. Additionally, members need to be educated and aware of the benefit an innovation would provide them with. He further points out that when members are introduced to an innovation, they are typically uncertain. This uncertainty becomes an obstacle to adopting the innovation, and the key in his opinion is to follow three steps: (i) start by presenting the targeted members with information and proper relative knowledge about the innovation itself; (ii) next, persuade them of its advantages and explain how they as individuals would benefit from adopting the innovation; (iii) finally, drive them towards deciding to adopt the innovation.

Each member of a social system has their own individual personality. Therefore, one cannot just assume that all members will adopt an innovation in the same way or at the same rate. Each one has their own reasons and so coercing them may not convince them to adopt. All innovations take time to diffuse and mature gradually among all members. It is impossible for all the potential members of a targeted social system to adopt and accept an innovation at the same time (Mahajan et al., 1990). In this case, the teachers might be persuaded to adopt technology into their practice once they saw how it could add value to their practice (Sahin, 2006; Finley, 2003). Adopting ideas, such as technology integration, is difficult to accept even when the advantages are obvious to teachers (Rogers, 2003). Teachers do not easily change their teaching practices as they feel more secure using methods they are used to and feel comfortable with (Fullan, 2007, 1992).

8.2.2 Changes in Social Diffusion

According to Roger and Shoemaker (1971), for change to happen, there must be an alteration to the social structure that involves the innovation. There are three kinds of social change: immanent change, directed contact change and selected contact change.

Immanent change happens when a member within a social system invents an innovation. They create and develop an idea from scratch to be used within their social system. This was not the case in Kuwait. The use of technology has been present for years and is not something new. Nor is using technology for teaching and educational purposes a new idea in the educational social system.

Directed contact change occurs when an outsider introduces new ideas for change they have defined. Again, in Kuwait this was not the case, as the innovation to integrate technology into teaching practice was introduced by the supervision department of the subject within the Ministry of Education. The supervisors were still considered as being from the same social system as they too were once teachers themselves.

Selective contact change occurs when the members of a social system are exposed to external influences that enable them to adopt or reject ideas based on the system's needs. Rogers and Shoemaker (1971) used teachers as an example when they visited neighbouring schools which had previously adopted an innovation. Teachers may then be left with new teaching techniques they are willing to try themselves in their classes without any pressure from their own school administration to adopt any new innovations. This change was present in Kuwait and displayed through the data collected. Teachers claimed they visited other schools to attend model lessons where they, as Teacher Fatma explained, "…*see what applications they use and apply them in class.*" Teacher Fatma's statement shows, just as Rogers believes, that teachers do adopt ideas to innovate from neighbouring schools that are within their own social system. Teacher Ibtisam confirmed that she once attended a model lesson at another schools and, "…*liked a certain activity, so yes I do apply it in my lessons.*" This indicates that teachers do change, learn and get new ideas from peers within their social system. Moreover, Teacher Waffa clarified that after they, as teachers, saw how an idea proved to be successful in a lesson, they then felt more encouraged and convinced that, "…*we can use or change it a bit to suit us.*" In the next section, I will address the adopter categories. I will then later review each category and describe how the interviewed teachers fell into each category group.

8.3 Adopters

When an innovation is introduced, individuals adopt the innovation in an ordered time sequence based on their speediness and acceptance of it. The members, who in this case are teachers, are divided into adopter categories. Teachers' adoption and use of technology directly affects the rate at which it is

'diffused' within schools or teachers' communities. The key components of diffusion based on this thesis are the rate of adoption by teachers of technological change, which will be discussed based on Roger's adopter categories. Rogers (1985, 2003) divides innovation adopter categories into five different groups: innovators, early adopters, early majority, late majority and laggards. Rogers shows a line graph that outlines the percentages of social members adopting innovations in each of these categories. While his set rates are viable, in qualitative analysis it is not possible to relate to this graph in any meaningful way. Instead, I will discuss the categories with regard to the data from the interviews with teachers.

8.3.1 Innovators

Innovators are the first group to embrace any innovation and innovate with its use. This group are the ones who always seek new ideas and concepts to try. They always have an interest in finding new ideas, as well as developing them to contribute positively to targeted social members (Rogers and Shoemaker, 1971; Robinson, 2009). Innovators are those who initially introduce an innovation to a society.

In Kuwait's case, the innovation was set by the Ministry of Education. Due to the innovation being set by the government, there were no real innovators in that sense, as the supervisors were just relaying the innovation and not adopting it. Therefore, they were not actual innovators but fulfilled the Ministry's decision with minimal help being asked of other teachers or groups of adopters. They are considered to be innovators because they were the ones who introduced the idea to teachers during the initial Grade One curriculum when they asked their teachers to adopt technology integration in their teaching practice. Only they were not "venturesome" as Rogers (2003) and Rogers and Shoemaker (1971) describe innovators as being.

The ELT supervisors lacked the power to understand how to apply knowledge to help diffusion regarding the innovation, as they had limited knowledge themselves. Supervisor Mubarak Al-Kabeer, for example, bluntly admitted, "*My knowledge about the use of technology is very limited anyway [...] I do not know how to use it at all.*" It is not credible to believe that an innovator who lacks knowledge of an innovation can be capable of helping to diffuse it. The same supervisor repeated, "*I admit it clearly I do not know anything about using technology in lessons.*" This again demonstrates that the alleged innovators were not qualified for that role.

Robinson (2009) states that there is no innovation that can thrive without the innovators' commitment and energy. The supervisors were not really committed to the innovation as their attitude was poor, "*Is it my mission? It is not my mission to teach them how to use the iPad*" (Supervisor Al-Asimah). The innovators here were not interested in guiding or demonstrating to teachers how it would benefit their practice. Supervisor Al-Asimah stated, "*Do you think they need guidance on using technology? Your phone is technology!*" making it seem like the integration of technology into lessons was merely dependent on their familiarity with using everyday mobile devices. The supervisor went on to add:

> *She is old enough to know what to pick and what to have in her classroom [...] this is one thing [...] now Google and everywhere is full of programs and full of like YouTube [...] they can lead you [...] it is not like before [...] we have to spoon-feed the teachers about everything [...] no it's different now[...] the teacher, she has a lot of resources [...] she can just write how can I use the iPad in the classroom and she will find a lot a lot of things, they don't want to work. They don't want to search, they want the old way of doing things.*

The above statement reveals that the innovators were not able to understand the need to communicate with their peers with regard to the innovation in order for the rate of adoption to increase. Rogers (1983, 2003), Rogers and Shoemaker (1971) and Sahin (2006) consider it is the innovators' role to introduce the advantages of an innovation as well as its benefits to a social system and help them understand and believe in its benefits once they adopt it. What was seen here was the supervisors just informing or pushing the teachers on their need to adopt, without any further help. Robinson (2009) states that innovators should be able to create and develop ideas related to the innovation. Additionally, Rogers and Shoemaker (1971) believe that innovators (supervisors) should be willing to accept setbacks with innovation. But what was shown here by Supervisor Al-Asimah was blame. She believed it was the teachers' role to search and find out how to integrate technology and not theirs to guide them, and as for those that do not that, she suggests, "*They don't want to work [...] they don't want to put in effort [...].*" Justifying herself further, she said, "*You need a good teacher not an old-school teacher for this, that's the problem.*" She did not accept her failure to fulfil her role as a supervisor, which was to introduce an innovation.

Then again, the supervisors did not have the expertise to integrate technology themselves. Supervisor Mubarak Al-Kabeer explained that no supervisor was qualified to train teachers in using technology, saying:

> *I challenge you to find any supervisor who knows more than that [...] and if they do they may know app names but not how to use them [...]app names only [...] and he may use them just to brag or show off in front of the others, but how to use it or apply it in class? No they don't know."*

The supervisors' knowledge deficiency was reflected in the way the Supervision Department handled the new proposed changes in general. Teacher Noura declared the supervisors should, "…*truly be looking out for student benefits and not be showing off that we are using technology*" as teachers. This indicates that technology integration was an aspect supervisors used to show off to their educational districts to prove the teachers they supervised were up to date in their pedagogies. Regrettably, the supervisors did not confront the fact that their teachers "*face difficulties*" because of their supervisors' shortcomings. They relied on the teachers themselves to seek knowledge about the proposed integration without offering any guidance from their side.

Whether the teachers were technology enthusiasts or not, they all agreed on, "…*want(ing) to know how to use it, to see the actual application of integrating technology*" (Teacher Rania). Obtaining knowledge themselves was not an easy task. The information was vast and they needed time to learn. In order for them to overcome this obstacle the teachers needed to see technology from a more positive viewpoint. It is the innovators' responsibility to promote this change among the members of a social system and have a stance favouring innovation (Rogers and Shoemaker, 1971; Rogers, 2003; Sahin, 2006). Only then will teachers feel encouraged to change their practices and adopt the innovation. The shortcomings of supervision resulted in teachers not comprehending how helpful or exciting using technology as a tool could be.

Additionally, teachers, as well as their supervisors, should have been aware that infusing technology into teaching practice was a matter where they could never really be fully caught up (Pope and Golub, 2000), as techniques keep developing. Teachers need to be open-minded and constantly developing their skills to keep up with the continuous development of educational digital technology. Therefore, as Pope and Golub (2000) argue, teachers need to constantly develop their professional knowledge, and to do so they need proper professional development and not just instructions from supervisors.

8.3.2 Early Adopters

This group of adopters are considered to be role models and experts within their field to whom others look up for advice and help. Rogers (2003) labels them as early adopters, as they are the first group to adopt new innovations and are inspirational to other members. They are more local to the social system (Rogers and Shoemaker, 1971). In Kuwait's case, these members were the teachers who were supposed to have learned from the innovators. The innovators in Kuwait's case were the ELT supervisors, as mentioned in the previous section. The innovators do not necessarily have to be part

of the members' social system, which was exactly the case in Kuwait. Because of that, the innovators depended on this group of adopters when introducing an innovation to help its adoption in general, as well as speed up the adoption rate of the innovation (Rogers, 2003; Mahajan et al., 1990; Rogers and Shoemaker, 1971).

These teachers were the ones that had the most informed opinions about how to get things done. Because of their level of innovation, other teachers listened to what they thought and were also affected by their opinions (Rogers and Shoemaker, 1971), because they respected them. That is because these teachers tended to have a reputation of being the successful ones. Moreover, Sahin (2006) describes early adopters as having leadership traits. Their leadership role and confidence with innovation decreases the uncertainty for other groups in relation to adoption. According to Rogers and Shoemaker (1971), this adopter group is the one that shows the path to other groups to follow. They are the leaders of their social system. Their innovativeness and knowledge make them role models in their social system. Early adopters are the group most responsible for the speed of adoption of an innovation. Their confidence inspires their peers. They are the least dogmatic adopters.

A small number of the interviewed teachers could be considered early adopters, because these were the ones who adopted technology integration and more importantly innovated with its use. From their responses their willingness to adopt was found without any other teacher influence on them. Their enthusiasm to innovate impacted on their colleagues to adopt and learn from them which, as Rogers (2003, 1983) and Rogers and Shoemaker (1971) explain, helps other teachers to follow suit.

Teacher Fatma stated that she was one of the "*first ones to use*" technology in her school. She felt that using technology saved her "*a lot of time*" in teaching her lessons. In addition, she explained that the use of technology "*motivates*" the students to learn and thus pay more attention during lessons. This all encourages her to explore and "se*lf-learn more about technology.*" When asked how she self-learnt, she answered by looking at, "*YouTube ... online ... and through practice really, trial and error.*" Her answer indicates that Teacher Fatma was not scared to try new things, even when she was aware she lacked prior knowledge and expertise in the subject. As Robinson (2009) states, when adopters' encouragement outweighs the disadvantages faced, teachers start to feel more confident about adopting the innovation. Teacher Fatma kept being encouraged to learn more because of the positive outcomes she observed in her own practice. She decided to learn herself from various sources within her reach, because she sensed that her "*students need it*". They were more eager to learn in an innovative style and not the usual "*very old style*", i.e. more traditional methods. As a result, she did not need any persuasion to adopt.

She went on to describe how she first started to integrate through her smartphone and she, "…*had PowerPoint on it.*" Later, because, "…*the page was really small*" when projected on the board for the children, she felt the need to progress to using her iPad instead. Teacher Fatma explained how she noticed that the students learnt in a speedier manner through watching videos. For that reason, she felt the importance of frequently embedding YouTube videos into her KeyNote slides during lesson presentations. She described how her students, in her opinion, "*Learn faster when they watch*" explanatory videos about writing letters than when she herself instructs them how to write a letter. She remarked that, "*It sticks in their heads and they learn it (writing) faster when they watch than when I teach them myself.*" That positive after-effect encouraged teachers to use videos. It also drove teachers to adopt technology when they saw for themselves the positive impact on their teaching and student outcomes. And that was exactly what happened. While teachers at her school at first refused to provide their own devices, their feelings changed once they saw how she changed the pace of her lessons positively. They started to, "…*want to compete and not lose and be the one who is considered lagging, when they see someone doing something good they feel the urge to be better than them.*" Eventually everyone in her department followed in her footsteps and adopted technology in their lessons. Their knowledge about the innovation was led by Teacher Fatma. Being their leader in adoption proved her stance to be categorised as an early adopter. She later added that they learnt together, depending on each other, "…*all of us are alone [...] we self-learn*". Thus, they created their own learning network within their department. The final result was a speedy adoption with an outcome for their lessons, which are, "…*like a model lesson [...] we use everything and include realia in the lessons [...] even the supervisor when she comes is always surprised at what we do.*"

Additionally, Teacher Aisha A. viewed technology integration as being "*common sense*". She reasoned it is a period of time when it was expected that modern-day teachers will be integrating technology into their lessons without being asked. Furthermore, the data collected point towards a few teachers feeling they should be more creative in their choices of teaching methods. Because of that, teachers were aware of the need to use teaching aids more creatively to keep the interest of the children. The teachers were aware that, "*Old-style teaching does not work anymore. Students do not enjoy or pay attention in class with that style*" (Teacher Zainab A.). Teacher Aisha A. believed teachers need to to be constantly seeking new learning techniques to maintain students' interest in their subject or else, "*You can stay where you are in the same place for even 20 years.*" This shows she understood the importance of constantly innovating and adopting new ideas. Her standpoint made her a teacher that was looked up to for advice (Rogers and Shoemaker, 1971) and respected by her peers (Rogers, 2003; Robinson, 2009). She went on to explain how her department was learning from her own teaching by regularly asking her, "*How did you teach this or that? What did you use for this or that?*" This once more shows that Teacher Aisha A. had a leading role within her department who

encouraged and helped her colleagues to adopt an innovation. This made her an early adopter herself (Rogers, 2003; Rogers and Price, 2009; Sahin, 2006).

Another early adopter, Teacher Zainab A., explained that as a teacher, "*When you see the child's reaction when you give him the iPad and teach him that way you will then feel obliged to learn and give more.*" She later described how when she used the iPad during a lesson, be it for a game or a presentation, all the students "*focus*". This positive effect on her students was the spark that prompted her to adopt technology integration in her practice. Yet, at the same time, she added that even though she uses technology daily, she understands the necessity of using other methods as well, and therefore still does, "…*physical games, contests, and crafts.*" This indicates that not all teachers who adopt technology use it to the exclusion of everything else. They still vary their teaching practices.

She has attended numerous privately-run courses up to the level where she is now a certified trainer herself on technology integration in teaching. Sadly the "*Ministry does not offer*" to let her train other teachers and help spread technology integration. Robinson (2009) explains that promoting early adopters as leaders in their areas affects the speed of other teachers adopting; sadly, in Kuwait, this has not been taken into consideration.

Teacher Zainab A. is a highly skilled educational technology user. She is a perfect example of an early adopter of innovation. She has personally attended numerous privately-run professional training courses related to technology integration. As a teacher she stood out from all my other interviewees because of her vast knowledge of this field. Yet, she felt she was not appreciated. That was because neither her supervisor not head of department acknowledged her personal efforts. In not rewarding her efforts in addition to not giving her a distinguished evaluation made her feel marginalised. She asked during her interview, "*Why am I considered just like the rest? Why am I at the same level as those who do nothing, you know? I am developing myself professionally, in my own time and paying for it.*" Robinson (2009) suggests that when early adopters are rewarded for their efforts in adopting an innovation, other members in the same social circle may feel more encouraged to adopt as well. Such a reward scheme was unfortunately not found in Kuwait. Early adopters did not feel as if they were 'more special' or different from anybody else because of their extra effort, or leadership, within their school departments. Feeling disregarded led teachers to lose motivation as regards innovating in their field, which in turn discouraged them from developing themselves professionally too. This is an important trait to have in early adopters, so that they keep being creative and indirectly affect their colleagues' decisions to adopt an innovation as well.

Early adopters generally like to be trendsetters. They are willing, when given the opportunity, to lead as well as to spread an. Early adopters, as seen in the three examples above, did not need a lot of persuasion to adopt technology integration. Additionally, they enjoy talking about themselves and their accomplishments. They have sufficient information and knowledge to be capable of leading their peers along a path (Robinson, 2009) for other groups to follow and eventually adopt the proposed innovation at their own pace. These teachers were the ones who encouraged their peers most, teaching them how to use the innovation in a manner that effects their practice positively. This group was always less dogmatic than the other group members (Rogers and Shoemaker, 1971; Rogers, 2003; 1983).

In some ways, teachers in this category, based on Roger's categorisation, could be considered as innovators. That is because Rogers describes innovators as the ones who adopt an innovation first and introduce it to their society. In the case of Kuwait, the innovator group were considered to be the supervisors, but they did not function as an innovating group. In addition to interviewed supervisors admitting to not knowing how to use technology in a manner that serves language teaching, they were also not committed to helping their teachers do so. They were just presenters of a concept or an idea to their society.

In contrast, my early adopters were the ones capable of helping their colleagues to use and adopt technology in a meaningful manner. This group of teachers were the ones who adopted the innovation first, in this case technology use as a teaching aid in class, and they were the ones who introduced the innovation to their colleagues in their schools and spread the positive outcomes of its use, just as Rogers describes 'innovators'. So, although in Roger's framework they are categorised as early adopters, I would argue that they could also be described as true innovators.

8.3.3 Early Majority

According to Rogers and Shoemaker (1971), this group is one that adopts an innovation before the average member of a social system, meaning these are members who interact with their peers and listen to them, but they are not leaders within their social system. These adopters need some time before adopting an innovation. Robinson (2009) acknowledges that point, adding that this group (in the case of this thesis about teachers) will not react to an innovation if they have not first seen solid proof of its benefits. These teachers seek proof when they interact with their colleagues and peers.

Therefore, peer interaction within a social system is very important for diffusion (Rogers and Shoemaker, 1971; Rogers, 1983; Sahin, 2006).

Almost all the teachers interviewed agreed that they adopted technology because it made their teaching "*just easier for me*" (Teacher Afrah), and not necessarily for the learners' benefit. This shows that teachers do not necessarily need to see it as beneficial towards their practice, but they do seek, "…*simple, proven, better ways of doing what they already do*" (Robinson, 2009). Other examples include Teacher Aisha M. who also explained that what made her adopt technology was it being, *"…more sophisticated and organized. It's organized my work and made it much easier to use various ideas in teaching as well as preparing my lessons."* Along the same lines, Teacher Maryam too claimed she, "…*really believe(d) it made my life easier in teaching. It has saved me time and effort to prepare for my lessons.*" The survey questionnaire showed that about 93 percent of teachers who completed it do believe that technology can help children learn their subjects, yet there were still teachers in the interview sample who support Robinson's (2009) theory whereby teachers use technology to look for the minimum wastage of time, and minimum learning effort on their side as teachers, and are not necessarily focused their student's interest. Teacher Mashael pointed out that while in previous years she had not integrated technology on a daily basis, she now felt it was a necessity to do so. She described how she "*feel(s) lost in class*" if she plans her lesson without a digital device. Her comments indicate that Teacher Mashael, as well as other teachers, now depend on the use of their devices as part of their daily lessons. Technology is no longer regarded it as a teaching aid, but a necessity to facilitate their jobs. The survey questionnaire indicated that 75 percent of teachers who completed had in fact been using technology on a daily basis, but because of the nature of questionnaires, it is not clear whether its use was in their classroom practice, or for their own planning/ record-keeping .

While the teachers did adopt this innovation, and started to use technology in their practice, they did not change many of their pedagogical strategies. Teachers simply substituted their presentation tools with the iPad and data shows to make, "…*practices and exercises more fun, clear, and colourful*" (Teacher Aisha M.). They were still feeding their students information just as they previously did, only now it was digitally. Students watching videos embedded into slideshows is a passive activity and not an interactive one that promotes students' interaction or participation. Teachers need to plan their lessons while keeping in mind that technology use within their lesson plans should be beneficial and not only used to feed information by substituting the teacher's role with slide-show presentations. Just as Voogt et al. (2013) state, teachers need knowledge that combines pedagogy, content and technology, which in the end delivers an interactive lesson between students and teacher with a technology-enabled core (p.106).

Teacher Maryam, talked about how she first felt when technology integration was introduced. She said the teachers were:

> *…first use(ing) the laptop but I wasn't encouraged then [...] but when they used the iPad and I saw how much more easy and fun its was to use, and with the apps, it makes it for a much easier and more interesting class too for year 1 [...] in addition to the ease of using Keynote and putting almost everything on it.*

This again indicates how teachers are always searching for new aids or techniques that will facilitate their job, making it easier for them to do things. That was what encouraged Teacher Maryam to adopt technology, once she saw how using an iPad was convenient and, "…*made my life easier in teaching*", just as Robinson (2009) claims.

Additionally, Teacher Maryam saw that technology use in class changed students' attitudes. The students become more, "…*motivated and pay more attention in class*" (Teacher Mashael) and teachers see, "…*excitement in my students now that was not there previously*" (Teacher Maryam, Teacher Hanadi). The students' reaction was a motivator, as then the teachers to do more and bring new ideas into their lessons, especially when they not only see more motivation, but that the students "*learn a lot*" (Teacher Fatma S.) compared to using the older traditional methods.

Teacher Maryam felt that as a result students not only enjoyed lessons more, but also, "…*they learn faster and memorise everything*" (Teacher Fatma) when it comes to language learning. Teacher Fatma added that taught language, "…*sticks in their heads and (the students) learn it faster when they watch than when I (the teacher) teach them myself*". Whilst Teacher Zainab A. perceived that a well-presented lesson, "…*sinks into them (students) better when I use technology*", which as a result lead her to believe that she "*need(s) to use technology*" and her *"students need it*" too. Teacher Maryam shared that impression, explaining that her students, "…*enjoy watching music videos which in turn encourages them to memorise and learn the songs faster.*" These are all signs of how teachers found the innovation had impacted on their teaching in a positive manner.

Just like Teacher Maryam, Teacher Fatma stated that she prepared her lessons using the KeyNote application. She usually gets, "…*a worksheet from a site and put(s) it on a slide*" to make it easier for the children to follow, filling in the blanks, for example, while she projects it through her iPad for all to see, as well adding songs from YouTube that are related to her unit's topic. These are a group of teachers I would consider to be an early majority. The early majority group of teachers came to rely on this application, on which they based their adoption of innovation. They assumed that using

this application to present their lessons meant they were diffusing technology into their pedagogy. While using slide-show presentations was not ideal for Grade One, it was still considered to be a form of digital technology integration into their teaching practice. Teacher Fatma gave credit to the use of songs, as that was in fact what led her to buy her own data show projector, and it also "*encouraged*" her to adopt technology use, as she believed the visualisation of songs displayed information in a simpler more colourful way for the students. I found most teachers highly depended on KeyNote for their lessons. KeyNote is an alternative application to PowerPoint and is compatible with the teachers' iPads, which they gave their lesson presentations on.

Teacher Aisha M.'s practice during lessons became "*more fun and colourful*". Additionally, teachers felt technology helped their lesson planning to be "*more organized*" (Teacher Aisha M.) as well as a great "*aid to teaching*" (Teacher Fatma S.). Teachers who integrated technology into their lessons now felt that lessons which "*lack songs and sound*" (Teacher Fatma S.) and video were now regarded as being boring and not as much "*fun*" (Teacher Fatma S.). Their attitude towards technology as a positive element in their classes was a major factor which drove them towards its adoption, even if they did not have the necessary knowledge to integrate technology in a beneficial way.

Moreover, teachers found that use of the Internet had broadened their horizons by adding materials to their lessons. They found endless "*resources on YouTube*" (Teacher Reem), which provided them with songs that helped in visual learning. Teachers also found YouTube to be a great resource for learning new teaching techniques and skills, which helped to modify their usual approaches to their lessons. The Internet has contributed indirectly to the professional development and knowledge of teachers. This was a positive approach in which teachers became innovators and attempted to become early adopters rather than be part of the early majority (Rogers, 2003; 1983). Some teachers adopted and sought to become innovators or early adopters themselves, and their colleagues who had less information looked up to them in order to learn more from them.

The students' reactions to their teachers' use of technology was another factor that teachers distinguished in their lessons, which in return motivated them to adopt technology integration. Teacher Afrah explained that she enjoyed, "…*seeing them (her students) happy and learning*". Teacher Afrah said one of the teachers in her department was "*great*" and the way her students "…*really enjoy it* [technology]" (Teacher Afrah) caught her attention. That encouraged her as a teacher to adopt technology as one of her teaching aids. Likewise, Teacher Fatma S. added that her students were always, "…*excited when they see the teacher comes in with an iPad*" because they believe that means play, animations and videos. This all resulted in a fun environment from the child's perspective. Additionally, teachers saw their students, "…e*specially enjoy watching music videos*

which in turn encourages them to memorise and learn songs faster" (Teacher Maryam). And for the aforementioned reasons, she, as well as other teachers in her department, "…*learned from them* (early adopters in the department) *and developed ourselves from then on*". Teacher Fatma S. added that, for these reasons, she, "…*encourage my (her) colleagues and I keep telling them it will make your life easier.*" While some were indeed easily encouraged and coerced to adopt technology, others, she stated, "…*worry about how to use it. But once they learn how to use it and see how easy it is they adapt.*"

Teacher Waffaa described a lesson she attended which did not integrate technology where the students were "*bored*". She added that the students kept asking their teacher where her iPad was. This got Teacher Waffaa's department interested in using technology and in turn they asked their colleague who, "[...]*had some more experience with using the iPad and helped us a lot in learning to use it ourselves.*" They acknowledged that using the iPad as part of their teaching practice encouraged students to play, and through play they practised language. This encouragement was a factor which encouraged teachers to adopt the proposed innovation. This showed that it did make a difference to the children. Integrating the iPad into their lessons prompted the students to pay more attention, which in turn motivated them to participate more. The use of technology as part of lessons made the classes "*more attractive*" (Teacher Aisha M., Teacher Zahra, Teacher Rania) for the students, which in turn encouraged teachers to adopt technology and innovate with its use. These responses revealed teachers as being aware of the need for change to their practices and so they may be ready to adapt their pedagogical knowledge to adopt new skills.

Another example is Teacher Leena, who was also encouraged to adopt technology by one of her colleagues, whom she described as, "*Always up-to-date and keeps attending training courses outside school.*" She later explained how that teacher provided her with knowledge and how she explained that with technology, "…*using the data show it is much clearer and colourful for the children to look at.. And then she explained to us how the apps give us a variety of beneficial games to use in class with the children.*" This was the start for Teacher Leena, and other teachers in her department, to adopt technology integration into her class. She went on to explain that from then on they, "…*share ideas and we do ask each other for help sometimes.*" Teacher Leena's department is an example of where an early adopter was present within their smaller social circle, and influenced her peers into adopting an innovation. They are a typical early majority group, which took a relatively short time to adopt an innovation after being influenced by an early adopter who proved the success of the innovation to them (Sahin, 2006; Rogers, 2003; Rogers and Price, 2009).

This shows that both sides, students and teachers, found the use of iPads in lessons as essential, as this added colour to them, as a lesson that includes an iPad, now, according to Teacher Sabeeka, "…*totally differs from one without it*". This meant that students did not seem as enthusiastic when they did not play games on the iPad. She clarified that children got excited and competed as to who could have more than one turn on it, as, "*They still want to have another turn, over and over again, because they like the games. And honestly I don't blame them because they enjoy the play and we adults enjoy the iPads as much as they do*" (Teacher Sabeeka). Teacher Maali agreed with Teacher Sabeeka. She too attended a model lesson and said when she, "…*saw her work and that it was easier from all aspects … the girls enjoy the lesson on the data show ... you feel some change in your class*", and this made it easier for her as a teacher. Moreover, the enjoyment of the students was a point that stimulated Teacher Maali to start using technology in her own teaching. Furthermore, because of that same kind of student joy that she saw, teacher Sabeeka asked her colleague to, "…*taught (teach) me how to use Keynote and I make all the lessons on it and do many things ... and I really liked and enjoyed her way.*"

Another respondent, Teacher Aisha M., learned from her peers as well as she stated:

> *I looked around on it and looked at my colleagues and how they use it and basically copied them. When I saw my friends click 'start teaching' using the iPad I watched the way the they used it and felt and I felt encouraged and motivated to do the same. I do the same now for those who do not feel so encouraged. I show them apps and give them ideas to motivate them to use their iPads in class, and then in the department we discuss what we do, what worked in class and what didn't.*

Above are examples of how peers influence those around them to accept and believe in an innovation or not. Teacher Afrah admitted that "*it was difficult*", but she kept learning until she was fine on her own. She added how, in effect, she influenced her colleague in wanting to, "…*be at the same level as me.*" This indicates she too was encouraged to adopt technology integration. They were not leaders themselves, but rather learnt from an early adopter within their school subject department in this case (Robinson, 2009; Rogers and Shoemaker, 1971; Rogers, 1983; Sahin, 2006).

On another note, Teacher Aliaa portrayed herself as one who, "…*enjoys integrating technology*". She described herself as, "…*a really big supporter of technology use.*" She explained that her belief in technology use with the current student generation was essential in order to grab their attention and interest during their school years. Teacher Aliaa recounted how she at first thought it was very costly and not necessary to buy any digital devices out of her own pocket, but she did so nonetheless to be in her supervisor's good books. At that time a new teacher was joining their department. Teacher Alia described how things changed, saying, "*She was very knowledgeable and top in technology and had*

top devices that we hadn't seen before [...] we had iPads for a long time for example, but we did not know how to connect them to the data show [...] but she was up-to-date and told us about a cable to connect them." She later explained how that teacher inspired her to learn more about how to use the iPad effectively in her lessons and, "…*not just download apps and that's it.*" Because of that teacher, she later started using her own devices in her lessons more effectively. Accordingly, she changed her mind once she found with practice that it was for her, "…*own benefit and it is easier*" for her to give her lessons in a more "*fun and animated*" manner. She found the situation of not using flashcards any more to be very appealing. She claimed that she was usually disorganized and tended to forget moving all her aids around. However now, with the iPad, "…*everything is in one place*". The teachers felt that these, "…*moving animations attract (students') attention more because of the varied pictures and videos for songs*" (Teacher Hanadi), which was different from the wallcharts, flashcards or audio CDs they were used to. That was in addition to making "*each step*" (Teacher Hanadi) of lessons clearer, delivered at an organized pace, and in order. Not only that, but also the Internet itself made it "*easier*" (Fatma S.) to search for images to replace the more traditional flashcards supplied by the Ministry of Education. Because of all that, the teachers felt that the students did not get bored during their lessons.

Teacher Leena became attracted to technology integration as well. She explained that one of the advantages of technology was its power to encourage teachers to become more creative by using applications that offered teachers the capability of turning a lesson's story into "*an interactive one*", which in turn produced a more amusing presentation. Digital story-telling, she felt, turns a lesson into a livelier and interactive session, which in turn engages students' attention longer. Al-Awidi and Aldhafeeri's (2017) study in Kuwait obtained similar results to mine, as both samples of teachers found one of the factors encouraging the adoption of technology to be digital story-telling in class, which was found to "increase the engagement level of their students" (p. 118). Teachers use technology to grasp and sustain their students' attention, technology "*grabs their attention*" (Teacher Sabeeka) during lessons. This implies that the teachers adopted innovations that aided them in motivating their students to participate in class and to maintain their attention.

Once again, we have Teacher Aliaa adding that integrating technology now was not just because it attracted students, but it also, "…*breaks the routine they are used to.*" She went on to describe how when she first started integrating technology by playing games on the iPad in class as part of language practice in her lessons, she felt her classes became filled with, "…*a lot of excitement and interaction*" between the students. The girls were all "*cheering*" each other on and the level of participation amongst them increased. Teacher Aliaa felt that result was because lessons were presented in a

"*colourful fun way*", rather than via the usual traditional flashcards and whiteboard the students were used to. The students felt they were playing rather than actually, "…*learning through play*".

This could indicate that many students nowadays are in the digital age, as outlined previously. They know about and are capable of using technology very well. These students want to learn in an animated environment and through active learning. Their minds need to be engaged, they do not want to be seated at a desk and fed information by the teacher throughout the lesson. The teachers were aware of this need, even if not all attended to it. Teacher Nancy summarised what most adopters already knew, **"***At the primary stage, using modern technology is really important because children want something that catches their attention and that is one of the main benefits of it for this age group.*" Teacher Maryam N. shared that impression, explaining, "*They learn more because they do not realise that when they playing they are learning.*" The teachers' conceptions showed that the children did in fact learn more through play or interactive learning rather than just watching slideshows or the more traditional whiteboard-based teaching teachers used previously. As Pope (Pope and Golub, 2000) state, teachers need to be open-minded and constantly developing their skills to keep up with the continuous developments in digital educational technology. Teacher Maryam N. also believed that the use of technology made it "*easier for them to understand*" the target language. She added that the children seemed to prefer, "…*to learn visually and they like animations rather than just still pictures.*" When teachers introduce technology in any form into their lesson it "*grabs their attention of course*", and for that reason she herself enjoyed and was encouraged to use technology.

The above comments point towards a positive attitude and an enthusiasm towards accepting and using technology as part of their teaching practice. This group of teachers were the ones I considered to be Rogers' (1983, 2003) 'early majority'. I considered them to be an early majority because they were enthusiastic to learn and adopt new ideas, though they could have been a bit discouraged because of their lack of knowledge. Nonetheless, I found this group of teachers were seeking knowledge to adopt innovation rather than rejecting the adoption of technology altogether. This group is a major one in Kuwait. They want to become innovators but they do not have the pedagogical knowledge to do so. But once they gain it, they could become great adopters. Many learnt from the early adopters who were a smaller group of enthusiastic teachers who went to seek knowledge privately (not through the Ministry of Education) to ensure they innovated with technology and not only adopted an innovation.

Although these teachers were promoting the use of technology and have adopted it like Rogers' (1983, 2003) early adopters, these same teachers were still depending on KeyNote for technology use. There was no student-student interaction present, which defied the student-centred environment

encouraged by the Supervision Department. The technology was used only to deliver information, and to transmit lesson content to the students in digital form. This was not student-centred, as the slides took the role of the teacher in class. Teachers needed to learn to produce an interactive lesson with the help of the digital devices they were using. Many teachers felt its use was not only beneficial, but also essential, because it made their lives easier. In addition to technology facilitating the preparation of lessons, teachers vocalised many positive remarks towards their integration of technology into their lessons. Most commonly repeated was that fact that the *"technology is lovely to use"* (Teacher Latifa).

What I sensed from the teachers' responses during the interviews was them considering themselves as early adopters because they used their content knowledge and presented it digitally with no technological pedagogical knowledge; in effect, they saw themselves as early adopters rather than an early majority, which I disagree with, as they have not innovated but only adopted.

8.3.4 Late Majority

Rogers (1983, 2003) and Rogers and Shoemaker (1971) refer to this group of adopters as the ones that adopt an innovation once it becomes a necessity. They adopt after the average number of adopters do (Rogers and Shoemaker, 1971). Other reasons for their adoption could be social pressure within their members' circle. They are very cautious members and are usually reluctant to adopt unless a significant number of members of their social circle adopt, they needed a lot of convincing. Robinson (2009) feels this group is not ready to leave their comfort zone, probably because of a fear of failure. They do not accept new ideas and hate taking risks. Robinson (2009) suggests that once the early adopters and early majority emphasise the benefits and risks of being left behind, they may feel more encouraged to give in and adopt. Sahin (2006) agrees, claiming that peer pressure and necessity force them to adopt innovation. Similarly, Rogers (2003) feels peer persuasion, usually in networks, persuades them to adopt. They mostly commonly adopt under peer pressure, or when it is a necessity. Teacher Aisha stated that she pushed her colleagues into adopting technology integration by constantly reminding them that, "*You won't be evaluated as excellent unless you do this. (adopt)*" This pressure on them to adopt was due to them fearing poor end-of-year evaluations.

Another interviewee, Teacher Niveen, claimed that although integrating technology made it easier for her as a teacher to present her lessons, as well as it being more enjoyable for the students, she was not very "*fond of*" integrating technology into every one of her lessons. She clarified that she felt the children "*get bored with it*", and therefore she felt that using "*both ways (technology and traditional aids) together*" was a more suitable choice. She explained how at the beginning she was against integrating technology as she did not know much about it, but she did learn from teachers in her

department. But nonetheless, she felt that she had to adopt because her superiors, i.e. supervisors and school administrators:

> *…say that we do not force you to buy devices but there is a clause to evaluate you [...] so they are forcing me indirectly [...] sometimes the teacher wants it but she cannot afford it financially, but in this case she has to*.

As a result, she felt that she was manipulated into adopting in an indirect manner because of their evaluations, and not through self-determination.

For teachers to be able to adopt an innovation, they need to feel at ease with what they do in their own practice during their lessons first, and not feel pressured into adopting new techniques for which they do not have the primary skills. Most of these teachers had just started integrating technology into their lessons. Teacher Marwa argued that if they were shown how, "…*technology has its benefits and the information is learned faster, and how it saves time. How the students also like it. Then it's only normal to want to use it.*" This demonstrates that teachers need to see how adopting technology is a positive move in practice. They need to see and learn how to use it and how it has been successful for others first, before they consider adopting it themselves. This procedure naturally makes their adoption speed slower than the average teacher.

Teacher Noura had a different reason as to why she felt pressured to adopt the innovation. She commented that because the curriculum was "*practically empty*", she had to resort to the Internet and, "*google materials*" to add to her lesson presentations. She went on to explain that once she started using an iPad in her lessons, she saw how her lesson environment became more "*fun*" as well as "*entertaining*". She said technology "*gives the language more colour*" during her lessons, now all the while depending on KeyNote and no interactions.

Teacher Dana expressed how lesson planning became "*easier*" for her now since she gave in to adopting technology. She admitted she rejected adopting technology integration at first because she did not "*know much*" about using it, but once she got "*better and better at it*", it saved her a lot of time. This in turn gave her more time and energy to be able to focus on and think about her teaching. Adding technology to her lessons saved her, "…*the trouble of making my own teaching aids and printing out pictures,*" as now all her needs in terms of visual and audio aids were available on the Internet (as mentioned previously), where she could *"copy and paste them into KeyNote"*. She went on to describe how she, "…*first started to use it just like I am giving a presentation at university [...] and now I use it more interactively with the children.*" She went on to explain how she had to learn to use technology from her peers, she had to "*attend their classes and copy what they do*", because

she herself did not know anything prior to using technology. Still, she felt using technology in her lessons was "*beneficial but not essential*", like the previous adopter groups mentioned.

Teacher Eman S. was new to integrating technology as well. She claimed she adopted technology, "…*because of Zainab. She loves the use of technology and constantly develops herself … she pushed me towards learning about technology and its advantages [...] if it was up to me I doubt I would care to go that far.*" Thanks to her colleague, Teacher Zainab A., she attended private professional courses herself to validate and broaden her knowledge of using her iPad in an effective fashion. She stated that most teachers, herself included, did not use the devices or applications to their full potential, adding that mostly the older teachers used their devices only "*to project their worksheets*". They did not actually put in extra effort to evolve their teaching techniques. Teacher Eman S. is a perfect example of how a late majority was directly converted by an early adopter.

Another reason behind Teacher Eman S.'s adoption was her annual evaluation. She saw how her evaluation kept, "…*go(ing) lower [...] I have been at the same 'level grade' for the past 10 years … I did not go up.*" That started to trouble her, so she finally listened to what her peers were encouraging her to do. She got her own devices as well, as it became, "…*kind of embarrassing to ask for others' devices all the time.*"

Teacher Eman S. was aware that many of her colleagues lacked TPACK, but still adopted technology without giving any thought to the depth of their personal technological knowledge, as they did not want to be left behind. Such a group of teachers, who adopt the innovation with no effort, are labelled as a late majority in Rogers' categorisation (2003, 1983). He describes them as being attached to their old habits and how they find it hard to change but do so out of necessity or social pressure. Still, Teacher Eman S. claimed although all teachers now had their own devices, not all teachers used technology because they were converted. She explained they used devices thinking, "…*if she felt today the principal will attend her lesson she will take the devices with her.*" This shows that the late majority did not adopt out of influence only, but out of fear of social pressure and its negative consequences as well. In the case of Kuwait, it was the teachers' fear of low annual evaluation scores that drove adoption.

After she started integrating technology into her lessons, Teacher Eman S. felt that using technology had made it easier for her to ensure all her students were together on the same page of the textbook. She explained how she put taught pages onto her iPad where they could be projected through her data show device onto the whiteboard so the students, "…*can all watch what I (the teacher) am doing.*". Additionally, she pointed out that she herself, as well as, "…*a couple of others do not mind paying*

for applications" that help teachers to explain or practise their lessons through play. Furthermore, she sensed the same kind of enthusiasm from her students. She portrayed how her students felt that they, "…*had fun and didn't study anything today!*" while in reality they practised through play. She went on to explain that even her slow learners benefitted from the games and recognised the new vocabulary she presented, which made her, "…*really happy that the low achievers did really well*", which in turn gave her as a teacher a "*sense of achievement*". This is an example of a late majority adopter who now understood the benefits of the adopted innovation and was contentedly using it. She summarised her stance, saying, "*I used to know nothing about it [...] but when I met Zainab everything changed [...] she was like a wake-up call.*"

Teacher Mashael, another late adopter, added that because of the contagious excitement in the class's atmosphere, "*Even those students that were shy and did not really like to participate felt more motivated to participate in class and start answering questions now.*" One can infer that the responses pointed towards believing that even those discouraged and slow-learning students changed their attitudes when the lessons became more animated and they felt more at ease to participate in lessons. Moreover, she argued that these teachers did not understand the capacity technology could offer them. They sadly integrated technology based on whether "*the principal will attend her lesson*" (Teacher Eman S.) or not, merely to secure a high evaluation (as mentioned in the previous chapter) and not feel left behind.

Teacher Latifa is another example of a teacher who feared being left behind in her social circle. She described what pushed her and her colleagues who avoided technology use towards adopting technology, saying, "*Jealousy pushed most of us to use [...] and then again everything new has to be rejected at the beginning.*" This attitude from the teachers would not push them to learn new pedagogical skills, but only towards minimal adoption. Koehler (et al., 2013) state that technology use need teachers with open minds to seek knowledge to use to help students advance their learning. In the case of my sample teachers, some used it for the sake of their evaluations and pleasing their seniors, rather than thinking about their students' benefit, while others adopted out of a fear of being left behind. Thus, they did not look beyond the common uses of the applications on their iPads when ensuring they were considered as adopters, regardless at which level.

On another note, Teacher Ibtisam explained how there was no real innovation when it came to technology anyway. That was because teachers did not know how to use the iPad in a way other than as a "*projector only*" to show pictures and videos. They did it just to be considered as adopters. When teachers are self-confident, they are able to diversify and expand their technology use rather than stick to slide-show presentations, which is a trait of this adopter group. They are sceptical about anything

new. Teachers were using their data shows for basic slideshow presentations, most commonly through the KeyNote application, that was because they were not taught, nor did they know otherwise. They resorted to what they knew felt safe. Teachers need to feel safe. This unsafe feeling was what kept them using only slide shows, especially when they saw it did what they were asked for, and it held them back from taking further steps. My work correlates with Young and Bush's (2004) ideas, as they state that teachers who have no clear awareness of the effective use of technology either ignore using it altogether as they do not comprehend how it will benefit their practice, or alternatively stick to using any current software they feel most comfortable with, which is exactly the circumstance my respondents were in. They resorted to the KeyNote application as a substitute for PowerPoint, as they felt safe using it. As Young suggests, "To integrate technologies in a classroom without an understanding of context risks using technologies ineffectively or inappropriately, thus wasting opportunities for new learning experiences" (Young and Bush, 2004, p. 7). The key to adoption is knowledge. If teachers do not recognise its advantages, they will end up being laggards, as shown through my data. Teacher Ibtisam unknowingly described her early adopter or perhaps early majority colleagues and their department situation as, "*The smart ones among us know how to integrate activities into their classes [...] so perhaps that would help to learn it.*" Her statement shows how she had no self-confidence in her own knowledge and capability of adopting the use of technology in her own practice. Another statement indicated her lack of self-confidence even further:

> *...a teacher made a whole lesson with characters of her choice and sounds of her choice [...] all through the iPad [...] I really liked it, but I assume I won't know how to do it even if I know the app's name [...] I feel like it needs some work or knowledge to it.*

In the same vein, Teacher Nancy stated that although integrating technology had its advantages, she still felt like she could not "*depend on a whole lesson on the iPad*". She also believed Grade One students needed "physical games" and to "*move around a bit in class and do some physical activities*" and not just watch iPad presentations through the data show. Although both mentioned teachers separately consented to the significance of integrating technology as an aid for language practice through games, they both stipulated that technology should not replace other language practice ideas that teachers could create for their target age groups.

The last teacher to profile in this group is Teacher Zahra. She talked about how her school just had one teacher who used technology, while the rest of the department did not. She reasoned that was because they did not adopt technology because they did, "…*not know how to use technology at all.*" She then explained, as Rogers (1983, 2003), Rogers and Shoemaker (1971), Sahin (2006) and Robinson (2009) emphasise, that they started to seek information about technology integration to be

part of the social circle. She described her journey and how she first started "*with the laptop, but it was too heavy*", and therefore she resorted to getting an iPad. Her department teamed together to adopt technology using their iPads for KeyNote presentations, as they did not want to be left behind.

8.3.5 Laggards

As I outlined in the literature review, Rogers labelled the last group to adopt an innovation as 'laggards'. This would not be a term I would use to describe the teachers in my study who adopted technological innovations last, but I did so to be precise with his theory. I find the term is unfair to the teachers, as it is quite a negative one. In the case of the participants of this study, the teachers who adopted technological innovations last were categorised as belonging to this group. If I was to change the label for my sample, I would have used the term 'pleasers', as I found these teachers adopted technology to please their evaluators, who are their head of departments, supervisors, and head teachers. I found this group adopted technology to secure their end of year evaluation and not because they started to finally believe in the innovation. Nor were they keen to use it as a teaching aid because they were not convinced of its power in learning, through no fault of their own. They were, based on their responses, poorly prepared to integrate and understand the importance and effectiveness of using technology in their lessons.

Grouping the teachers into separate categories was not an easy task to undertake. Teachers can show indications that their practice moves across different models on Rogers' continuum. Therefore, the categories based on the work of Rogers (2003;1983) may be quite interrelated because some of the teachers interviewed fell in-between his categories, and they could be considered to be fitting the descriptors of two categories and not just one. In addition, teachers may switch from one adopter category to another over time. Teachers, just like any other people, have ideas and stances which change and evolve on a daily basis. I carefully analysed the interview data in order to choose which adopting group to assign them to, based on the prevalent characteristics they demonstrated, which aligned to one group. However, this was a challenge, as this process does not acknowledge the complexity of individual teachers' beliefs and practices. Nonetheless, overall it was possible to assign teachers broadly to a category, and the use of Rogers' theory was useful in terms of understanding how innovative practice can be distributed amongst a group.

As mentioned in the literature review, this is quite a harsh label imposed by Rogers (1983, 2003) and Rogers and Shoemaker (1971). Although I feel cautious about using this term, there are some

characteristics they were expressing that can be thought of in this way. This group is the last one to adopt, if they ever do. It comprised traditionalist teachers. The most localised group of any social system, they mingle with same-minded people. They create their own, usually small, groups within a social circle. They are isolated from their peers in a members' social group compared to other adoptive groups (Rogers and Shoemaker, 1971; Mahajan et al., 1990; Rogers, 2003). Rogers (2003) defines them as wanting to stick to the past and previous generations' experiences, in this case previous traditional methods of teaching practice. Rogers (1983, 2003) describes laggards as being a stubborn group who want to hold on to their traditional values. They keep holding on to their past practices, they do not feel comfortable with change. Therefore, they rarely take steps forward within their society. Their holding back slows down any diffusion of the innovation process. Rogers and Price (2009) claim they typically lack knowledge and awareness of an innovation. Just like late adopters, they do not adopt unless they are very sure of the innovation's success. But unlike the late majority, they do not succumb to any social pressure. Sahin (2006) explains they generally decide to adopt an innovation once it has been diffused within a social circle, arriving very late into it.

Robinson (2009) characterises them, harshly in my opinion, as being bitter. That is because they feel any innovation is too risky and they will not shift their opinions. He suggests trying to either maximise their familiarity with the presented innovation, or "let them see exactly how other laggards have successfully adopted the innovation" (Robinson, 2009). This group tend to resist using it for as long as possible. I believe, in relation to the teachers in my study, it was because they were not shown during their Grade One training how to use technology to enhance their lessons in an interactive way, in addition to feeling overwhelmed with the amount of work needed to plan lessons to satisfy their superiors, i.e. the Ministry of Education and the Supervision Department. Therefore, I found that laggards resisted change and only adopted because they did not want to be left behind and were, as aforementioned, worried about their annual evaluations.

While most teachers welcomed the innovation, a few did not. One of the interviewees, for example, felt her students, "…*with the lights off get sleepy and it (KeyNote) gets boring*" (Teacher Haneen). Traditional teachers almost always resisted change, especially when they were not shown how change could benefit their practice. The manner in which the teachers were using slide presentations, mostly on KeyNote, was expected because these kinds of teachers rely on being the sole providers of knowledge. This was now a technological way that "poured the knowledge into the learner" (Kramarski and Michalsky, 2015). From their point of view, this was them adopting the innovation into their practice. Teachers in this group tended to look for excuses to postpone the fact that they must eventually adopt an innovation. In the case of integrating technology they did not understand its potential in their practice and assumed it was just for presenting well-used slides, which was the

situation for most adopters, sadly. However, that was not through any fault of their own, but because they were not prepared appropriately and personally did not know any better.

The first teacher I will talk about is Teacher Layla. She had just started to use technology in the current year as opposed to other teachers who had been using technology for some years prior to the interviews, making her quite a late adopter in comparison. Teacher Layla shared her point of view which some of her colleagues shared regarding integrating technology into their practice. She believed that technology integration was, "…*not about learning the language more or better, it just changes the way we (the teachers) catch their attention.*" She just felt that students' attention was caught in a different manner, and not that technology itself added value. She questioned, "…*why do we have to since we are doing just fine without it and we make extra efforts to include realia and so on, so why does it have to be on the iPad?*" Her comment illustrates that she was not convinced that the use of technology would change nor add anything new to her practice. She was not the only one; a small number of my interviewees felt integrating technology in their lessons did not make a difference to their teaching. Technology was described as just as enjoyable as "*arts and crafts*" (Teacher Shireen). Others felt its over use would lead to children "*losing interest*" (Teacher Haneen) in practising with it. Teacher Aisha M. stated that she did "*not like the use of technology*", she preferred to depend on her "*own aids*" that included wallcharts and others that she has "*designed*" herself for use in her lessons. The teachers who had negative stances and thoughts related to the use of technology faced a barrier to integrating technology into their lessons (Hew and Brush, 2007), as they did not comprehend how it would benefit them as teachers in a learner-centred environment.

Teacher Shireen too felt that technology had no impact on learning and, "…*the student does not benefit from it [...] so what is the use*?" She too did not understand, nor was convinced, that integrating technology would add anything to her current teaching practice. She further described her colleague's lesson, one of the teachers who like her did not adopt technology, in this way: "*There is no necessity for technology in her class [...] and she reaches her objectives, so why bother? What's the use?*" Teacher Shireen's views were typical of those members resisting adopting. She did not see it as something essential or beneficial. She believed that, "*A game does not help to achieve an objective.*" This indicates that she did not believe in technology or that game playing could help her students learn faster or catch their attention. She still considered their practices to be totally fine as long as their teaching objectives were all met. Hence, she questioned why she should resort to adopt technology and change everything she, as a teacher, was used to doing, especially knowing that what they already were doing in their classes worked well and served the learning process. She emphasised that the Supervision Department kept repeating that teachers should, "…*use the technology, but it is not a substitute for traditional methods*". Because of that, Teacher Shireen felt that even the

supervisors themselves were not convinced about the advantages of adopting technology, making adoption an unnecessary step to take, in her opinion.

Both Teachers Haneen and Zainab J. felt the use of technology was "*a bit of a burden*" because teachers had to carry all their equipment around the school with them from one class to another, especially when teachers were not allowed to ask students for help in carrying things around. Teacher Haneen, who at first was willing to use her iPad because it was supposed to make her lessons "*more fun*", explained further that when using all these aids in one lesson together, this made her sense her "*lesson is crowded*", which resulted in "*wasting a lot of lesson time*". She added it was sometimes a blessing when she did not use her iPad during a lesson, as it gave her the chance to, "…*concentrate on each girl individually*". She justified that that was because the, "…*iPad makes you detached from students, you know? Besides, the girls just watch the screen.*" She clarified that while it was obviously "*common sense*" to integrate technology into her lessons, "…*we cannot omit the teacher's role regardless of whatever kind of technology she uses*" during her lesson. The teachers understood the need to shift their roles in class to a student-centred approach. She still believed it was the teacher's role to encourage students to practise the language in class and not rely on them watching and listening to videos of native speakers, or else they would not learn. Teacher Haneen added that sometimes it was good for the students to use their own creativity in making individual "*touchable letter cards*" and not depend on everything being virtual. Therefore, the result of mixing both the iPad and traditional aids or methods was that the lesson "*does get kind of crammed*" in her view. Yet she did eventually join the laggard group and adopted the proposed innovation because that was what the Supervision Department asked, for despite her disagreement, for fear of being left behind. The adoption by groups is a useful tool to measure adoption rates, but it may be that the term laggard does not cover the complexity of this group. It is not that the teachers are not interested, but they have different reasons to resist adopting. Although I find the term laggard is not really be appropriate to describe those teachers, I continue to use the term according to Rogers' criteria.

Teacher Haneen was worried about, "…*not want(ing) to be singled out of the group*" once the Supervision Department enforced the need to mix methods in their lessons. She stated the need to "*carry everything around*" with her from one class to another, with no dedicated teacher storage space, stressed her to the extent that when she planned her lessons and thought creatively, the hassle of moving things around compelled her to, "*change her mind*", because it "*wastes a lot of my lesson time*". Teachers who are more traditional in their teaching and thinking tend to lag behind in adopting or accepting change. These are the ones who, based on diffusion theory, adopt technology last. Or, in the case of some teachers, they adopted it but then 'un-adopted' it because of the obstacles the

Ministry of Education put before them. The teachers resisted adoption because of the obstacles they faced, which challenged their usual routines, and not really because they were lagging behind.

Teacher Zainab J. was a teacher who did not adopt up to the year data were collected. But eventually she gave in and got her own devices out of fear of being left behind (Sahin, 2006; Robinson, 2009). She was new to technology integration, and she did it, "*because it was asked*" of her by her head of department; in addition to this, all her department had already adopted and so she "*felt obliged to get one for myself*". She just did that because she was worried about her annual evaluation and not wanting to be left behind, whilst in reality she, "…*believed that my teaching before without technology was good ... and now I have started using the iPad and I still feel my teaching before was better.*" Just as Robinson (2009) states, they adopted out of necessity and not contentment. They adopted for the wrong reasons.

She explained further that with the use of the iPad in her lesson she felt it restricted her and "*confined my way of teaching*", because it limited the number of usual activities she did during her lessons because technology integration "*consumes a lot of my time*". Furthermore, she felt she could not move around the class as she was accustomed to either, adding that she, "*...tried to explain the way I feel to my colleagues but I felt them say it's no [...] different*". This illustrated that she was not content with using the iPad, while her department were not able to understand her negative stance towards it since they all willingly adopted the innovation themselves. She felt her views were different, as they all were persuaded and committed to integrating technology, while she on the other side saw, "…*it did not add anything to my teaching*". Moreover, to prove her negative impression, she clarified that while the idea to integrate technology based on the Supervisors would help students learn more, she claimed she felt, "…*student outcomes in general in the past were better than they are now.*" This suggests that adopting the innovation set her back with her students and did not fulfil the so-called promises the supervisors made. She went on, clarifying she did not reject adoption as such, it was, "…*not that I am outdated, it is just that I do not see how it would be beneficial.*" Again, the main reason behind her rejection was not being able to grasp the positive advantages that come from this innovation, especially since she mentioned, "…*I do not know how to use technology in my class.*" This indicates that not only did she not see the benefits, she admitted she did not have the appropriate knowledge to adopt the innovation. Because of her lack of interest in the innovation, she had not put in any personal effort to seek understanding or knowledge either, but rather trusted her old teaching practices instead.

The last teacher to discuss is Teacher Shouq. She held strong feelings towards integrating technology and the manner in which teachers integrated it. She started by describing herself as being "*not very*

fond of technology". She believed that, as a teacher, she relied "*on learning by doing*". She supposed integrating technology for older grades would be more viable. But for Grade One, it was not necessary at all, let alone to use it, "…*all the time to prove that you use it in class*" just to please the school administration and the ELT Supervisor. She emphasized that she did not understand, "*…how making a full PowerPoint presentation that I put up and say look at me I used PowerPoint in teaching*" would be beneficial for lessons or her students. She explained that teachers who made PowerPoint presentations and used them in their lessons believed that, "*She has integrated technology into her teaching.*" She declared that this was not the correct way to integrate technology, as not "*all the students will be paying attention to a PowerPoint presentation*", especially at their young age. She later clarified that while she owned all the devices needed to integrate technology in her lessons (an iPad, data show, speakers), she just kept them as a backup during class, and not vice versa as most other teachers did. She mostly only used technology if she needed to use a song related to her topic. Other than that, she emphasised once again that she preferred to "*teach by doing*", meaning she trusted that Grade One students were at an age where they learn best when a student "*holds and sees and does*". This indicates that the teacher was resisting adoption and would do it if it was necessary, but not as an aid. She did not deny that integrating technology sometimes motivated students to be more attentive at times when they were bored of a certain type of game that had been used repeatedly. But then again, she went back to saying she did not "*see a reason to use it (technology) all the time*". She stressed that "*nothing should be forced*". Teachers should be given the choice of what to use during their lessons. She reckoned that when a teacher is passionate about her teaching she would know "*how to be creative*" and how to handle her lessons without any administrative pressure. She later added that once the Supervision Department made, "…*an actual class presentation where we (teachers) see the teacher and students interacting with the iPad properly, that is when I will start believing that, "Oh, ok, an iPad is really a good idea in class.*"

During the interviews, it was noticeable that in the laggards group, some claimed that they did know and understand the importance of technology integration, while others admitted to not being convinced. The teachers were just following the discourse of the policy. But when probed further about their feelings, thoughts and practices, the teachers showed otherwise. Their responses were contradictory between what they believe in and what they practice. It did not seem they were convinced or happy with having to adopt technology. And Teacher Shouq, as discussed above, is an example of that.

Similarly, all the teachers found the use of technology was irrelevant to the learning process of the students and considered a waste of class time. Once again, to overcome this barrier, teachers need to understand the importance and benefit of technology use in order for them to be able to overcome

that barrier. If not, that barrier will not be overcome and that will result in inadequate technology use because teachers do not really put in any effort to learn new skills; but rather, as Hew and Bush (2007) explain, they will find "other skills and content knowledge are more important" to develop (p.229).

Therefore, the categories based on Rogers (2003, 1983) may be quite interrelated because some of the teachers interviewed fell in-between his categories, and they could be considered to be fitting the descriptors of two categories and not just one.

8.4 Conclusion

Based on the data I collected and have discussed, I can infer that although Rogers developed a graph regarding the rate of adopters adopting innovation using quantitative data, my qualitative data indicate a similar pattern.

This was confirmed by my survey data. In my questionnaire, in question 16, I asked the teachers how long they had been using technology in order to measure when they adopted. Shown below are two linear graphs. Rogers's (Fig. 9) results and my own results (Fig. 10) are quite similar when analysing adoption rates in a quantitative manner.

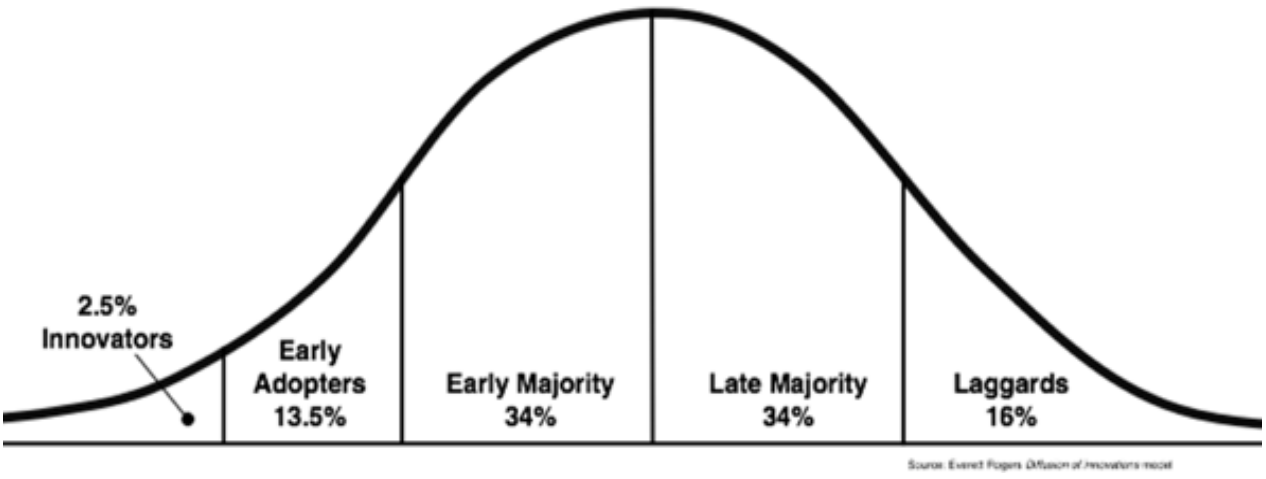


Figure 9: Diffusion of Innovation Model (Rogers, 1983)

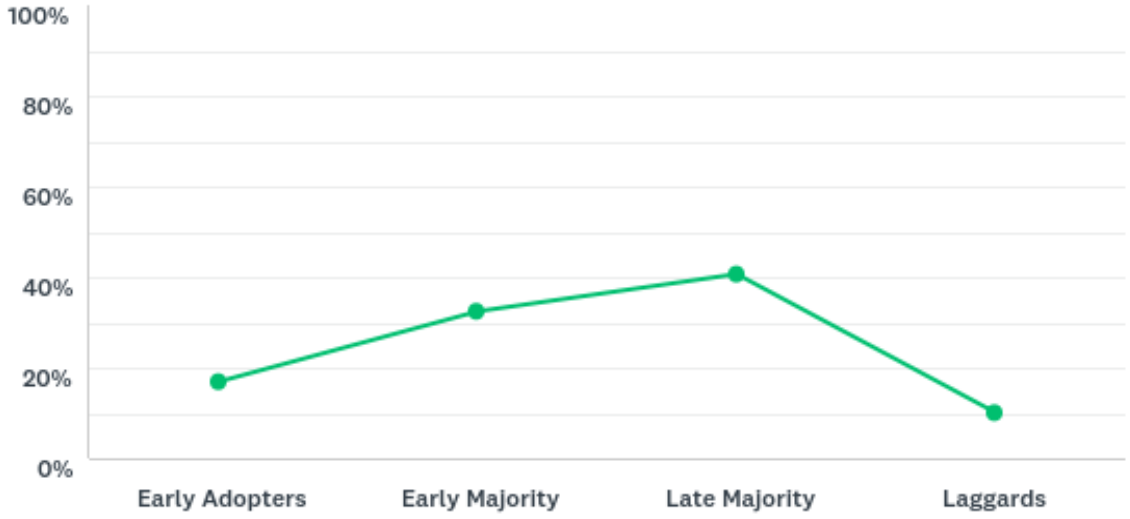


Figure 10: Question 16 SurveyMonkey Result

When comparing the two graphs, whilst omitting the innovators section in Figure 10, one can see that the results are quite similar. In Figure 10, I do not have an innovators section because the questionnaire was addressed to teachers only, not the people responsible for leading this innovation.

Many of my teachers overlapped in categories as I followed Roger's grouping qualitatively. It was rather challenging to choose which adopter group some teachers belonged to. For example, some teachers fell into the innovator category but I was not able to put them into that category because, in Roger's theory, innovators are not the only ones who innovate, this category also includes those who present the innovation to their society. Thus in the case of Kuwait, it was the supervisors and not the teachers, even though in reality it was the teachers who were well advanced in using technology and they were the ones who innovated and encouraged their peers to adopt.

The aim of my questionnaire was to triangulate my results and make sure my findings were valid. Looking at both the graphs above (Figs 9 & 10) shows the results are in line with Roger's (1983, 2003) diffusion of innovation theory's adopting rate for an innovation. The similarity between the graphs shows that the data are in line with the theory used. Qualitative data gave me more depth to learn and understand what the teachers were doing, which resulted in some of the teachers overlapping in adopter groups. Therefore, whilst Roger's (1983, 2003) theory might be said to present some challenges in relation to its overly-rigid format, it has been useful in my study as it enabled me to understand and explain the differences between the teachers' adoption of the government's policy.

The data analysed show that they align with Rogers' (1983, 2003) theory of diffusion of innovation in relation to the adoption rate of the teachers adopting educational technology. They also show that teachers adopted educational technology for different reasons and at different speeds, and that

knowledge of beneficial outcomes as well as knowledge of the use of innovation play a major role in the adoption rates of its users. As I reflect on my discussion of the teachers it does lead me to conclude that there are limitations with Rogers' tool, in particular the category of laggards may not fully account for what I have seen in the data. I find the laggards category may need some revision.

In the concluding chapter, I return to my research questions, in addition to outlining the implications of my research for the field.

Chapter Nine

9. Conclusion

9.1 Introduction

Focusing on the implementation of technology integration, this study has investigated the various barriers to, and enablers of, current rates of technology adoption amongst English language teachers in state schools in Kuwait. To that end, this study has specifically examined technology-based implementation and integration in the context of the new Kuwaiti national Grade One primary school curriculum. Additionally, teachers' readiness for and preparation thereof were examined, along with the pre-curriculum-implementation training with which teachers were provided. The specific difficulties and obstacles faced by teachers have been identified and discussed. Furthermore, the perspectives of both teachers and English Language supervisors have been investigated. In this chapter, the findings are related to the research questions. I then move on to discuss the implications of my findings for research, policy and practice.

9.2 Main Findings

The following sections summarise and relate this study's findings to its research questions. The overall question was:

What are English language teachers' experiences of implementing the new English Language curriculum in primary schools in Kuwait?

This was addressed through the following sub-questions:

1. To what extent have teachers embedded technology in the new curriculum?

There was variation in the amount of technology used by teachers, with the majority using it in limited ways. This is line with other studies, such as those done by Al-Awidi and Aldhafeeri (2017), Alharbi (2012), Aldhafeeri et al. (2016) , which indicate that most teachers' lack of training was the reason behind lack of innovation with technology with teachers in Kuwait. The data also suggests because of the lack of resources, the levels of teachers' innovation in embedding technology was limited.

Teachers mostly used data projectors for class slide show presentations as the main way of embedding technology into their lessons. This meant that the classes were teacher-centred, and not student-centred, as the Ministry of Education has advised (Ministry of Education, 2008).

Teachers have expressed that most of what they know about technology use was through teacher-led workshops they attended. In the same vein, Hargreaves and Fullan (1992) believe teachers do learn a lot from knowledgeable people which is how most teachers in Kuwait started to adopt and embed technology into their pedagogies, through peers and not trainers. The problem is that with time, the model lessons or workshops were becoming repetitive of the same skills and ideas over and over again, with little new to learn. Most teachers just mimicked each other, with no further innovations on their side. Teachers ended up completing the same teaching steps, used the same apps, games, and even presentations again and again without changing or developing the skill further. This matter contradicts Theissen's (1992) argument, as he considers teacher-led workshops to be a stimulant to teachers' innovations. This could certainly be the case, but in Kuwait, the data suggests that teachers mostly copied the models lessons they attended. Hayes (1995) has advised teachers in order to be able to innovate in class, they need to innovate further and look beyond imitating colleagues.

There were numerous reasons for the limited way in which the majority of teachers embedded technology in the new curriculum. These are outlined in relation to the second sub-question was as follows:

2. What are the barriers/ enablers that teachers faced in embedding technology into the new curriculum?

There were a number of barriers to the embedding of technology in the new curriculum. One of the key barriers was the lack of training and support received by the teachers, which meant that motivations for change were limited. Participant teachers stated that, in the context of the new

curriculum training course, their trainers did little to explain or expose them to new digital technology-related skills; rather, their trainers simply emphasised that teachers must demonstrate that they have integrated new technologies as part of their annual evaluations. This approach meant that teachers integrated technology because they had to, not because they wanted to improve their technological knowledge or update their pedagogical skills. Some teachers simply focused on pleasing their evaluators and dismissed the fact that educational technology is supposed to improve student outcomes and motivation. All the teachers stated that they take their evaluations very seriously. Hence, teachers stated that, if it would ensure a satisfactory evaluation result, they would do anything they were asked, regardless of their personal perspectives or beliefs. As a result, teachers were motivated to obtain their own devices. However, their motivation in so doing was not to improve educational outcomes by integrating and exploring new technologies, but simply to obtain positive teacher-evaluation outcomes.

Almost all participant teachers stated that the Ministry of Education's training programmes were essentially useless. Additionally, the data show that, beyond the aforementioned teacher training courses, both the Ministry and teachers' supervisors planned no further teacher preparation. In addition, participant teachers stated that the Ministry's professional development system had caused a number of problems. Teachers were aware of the Ministry's negligence in this department. Although teachers had repeatedly requested better professional development opportunities, the quality of training provided by the Ministry remained unchanged. Thus, due to the Ministry's low standards, teachers came to regard development programmes as a waste of their time. Even if teachers were exposed to new skills, they were not exposed to the reasoning behind technological shifts (i.e. specific reasons why outcomes etc. would improve if they included technology-based innovations in their pedagogies). Participant teachers stated that they had repeatedly asked to have the benefits of technological implementation explained to them.

The data collected for this study show that teachers felt that both their subject supervisory departments and the Ministry of Education had not adequately prepared for the mass implementation of new educational technologies. Such comments indicate that the Ministry of Education failed to devise either an appropriate training programme or an appropriate training timeframe. How exactly did both subject supervisors and the Ministry expect teachers to benefit from such a programme? Teacher training programmes need to be longer than a couple of days if they are to be effective or useful (especially if they are designed to encourage teachers to integrate and connect new technologies, content and pedagogy in their lessons) (Koehler et al., 2007).

Participant teachers described the training programme they attended as a theoretical slideshow with no practical element; furthermore, they stated that trainers did not possess adequate knowledge of the subject matter. This is a problem in Kuwait. Professional trainers (in this case, supervisors) often lack the knowledge they are required to teach. Thus, although they have both content and pedagogical knowledge, they often fall short when it comes to technology-based knowledge. Training programme supervisors essentially expected teachers to train themselves (because they were teachers). Thus, when attending such training programmes, teachers quickly sensed that their supervisors were there simply to present (in slideshow form) the required material, and were not really concerned with the programme's outcomes. This study's interview data reveal that teachers consequently blamed their lack of preparation and technical knowledge on their supervisors.

A further barrier was a lack of resources. As teachers had to buy their own devices, they felt they the Ministry of Education was taking advantage of them. They stated that the Ministry should have provided them with the digital devices necessary to implement its new technology policy. Teachers also felt that it was unfair that they were evaluated according to whether or not they employed a device in the classroom, when they had been neither provided with, nor educated in the possible pedagogical applications of, such devices. Overall, this study's results indicate that all technological integration was effected via teachers' efforts alone.

The interviewed teachers taught in four of the six educational districts in Kuwait. Although some schools had installed data presentation facilities, not one of the participant teachers stated that their school administrators had provided them with a tablet or a laptop computer. Consequently, all participant teachers bought their own portable devices (mostly iPads). Furthermore, the majority of teachers stated that they also bought their own data show projectors, portable Wi-Fi connections and speakers. All the teachers had asked to be provided with handheld or portable devices, speakers, data projectors, Wi-Fi and technical support via official channels. Until they had access to such equipment, teachers were essentially unable to overcome this barrier to the implementation of the new technology-dependent curriculum. Such negative experiences affected teachers' attitudes regarding the use of technology in lessons (Ertmer, 1999). Furthermore, if devices were not easily procurable, teachers would have been unable to integrate new technologies into their lessons, which would have ultimately slowed the spread of technology-based pedagogical innovation (Rogers, 1983; 2003). Luckily for both school administrations and the Ministry of Education, Kuwaiti teachers opted to sidestep the acquisition and knowledge barriers by purchasing their own devices and educating themselves in the pedagogical uses of technology. However, the teachers also stated that, although they owned and used digital devices, they did not really know how to use technology in educational contexts. Irrespective of their digital abilities, teachers stated that they employed such devices as

infrequently as possible (essentially only to please their supervisors and thus guarantee good evaluation results). Teachers need to understand that they should use technology to gain new pedagogical knowledge and skills, not simply to please their supervisors.

The lack of training led to the third key barrier – a lack of sufficient knowledge and skills to implement the changes successfully. Whilst all participant teachers stated that, in terms of the pedagogical use of technology, their main concern was their annual evaluation, many teachers also stated that they genuinely wanted to improve their teaching ability. And yet, teachers felt their supervisors were not interested in developing their teachers' pedagogical knowledge and skill sets. The teachers stated that their supervisors provided them with training only when there was extra pay for them to be gained from doing so, they were not really interested in training them. Some teachers also stated that they learnt more from participating in inter-school workshops than they did from their supervisors. Furthermore, teachers stated that, by engaging in such workshops, they were able to discuss technology-based pedagogical content knowledge with their peers and thus learn new skills. Participant teachers stated that such workshops encouraged them to explore and employ new technologies in their lessons. It was also observed that, although teachers found teacher-led workshops and model lessons to be both effective and helpful, they still required specialist technology-based pedagogical training, which was not offered in their training. Essentially, teachers faced a major technology-based skills and knowledge barrier.

Participant teachers stated that they found the new curriculum's proposed pedagogy challenging, mainly because they lacked the knowledge sets required to implement it properly. Hence, due to the lack of training opportunities, teachers were thus obliged to self-learn and self-develop their technological abilities. Teachers repeatedly expressed their desire to receive hands-on training so as to modify their pedagogies and learn new skills. Thus, if teachers had been provided with access to a thorough skills and knowledge-based training programme, they would have happily embraced the implementation of new technological innovations. As claimed by Koehler and Mishra (2006), TPACK is base knowledge for educational technology integration, which most teachers in the study lacked at different levels. Koehler and Mishra (2009) later explained that even when teachers already have general technological skills or knowledge, it does not mean that they will be able to teach using those skills. Teachers need to learn how to use technology to facilitate subject learning according to their own taught subjects. The low quality of the Ministry of Education's teacher development training programme resulted in this knowledge gap.

Ertmer (2012; 1999) and Harris and Hofer (2011) found that, although most teachers are enthusiastic regarding the potential pedagogical application of technology, they often face skill and knowledge-

based obstacles. Hence, as technology tends to change at a fast pace, trainers need to be aware of new technological concepts and uses. In other words, trainers should follow technological advances themselves. Teachers should not have to adapt their teaching practices without the help of fully informed supervisors. Angeli and Valanides (2013) state that, ideally, technology-related training should teach teachers to use digital devices as teaching tools; furthermore, technology-related training should focus on practical, teaching-contextualised illustrations and examples, not abstract data and theoretical approaches. In contrast, interviewed supervisors stated that, as the Internet has endless resources, teachers can access any materials they require online. Therefore, supervisors believed that teachers should simply overcome the lack of resources and integrate technology into their lessons themselves. Furthermore, supervisors stated that, given the above points, teachers should not solely rely on the Ministry's training programmes, and that the Ministry is not responsible for any preparation-based shortcomings. Thus, the Ministry of Education needs to acknowledge the TPACK framework and designate further technology-based professional development programmes for Kuwaiti teachers. Furthermore, the Ministry should bear in mind that, although teachers may understand how to employ contemporary technology for personal purposes, they are not aware of how to employ such technologies (i.e. the iPad) in innovative educational contexts. There is not a single specific way in which to accomplish this task. The TPACK framework can be addressed via a number of approaches (Harris et al., 2009, p. 403).

The third sub-question was as follows:

3. What were the rates of adoption of the curriculum innovation by the various teachers involved in the study?

This question addressed the pace at which teachers adopted new technological innovations. The data collected suggested the rate at which the participant teachers started to employ technology in their lessons. The findings indicated that teachers started to adopt and employ technology for a variety of reasons. It was not anticipated that this study's participant teachers would have adopted and innovated at the Ministry of Education's predicted rate. When members of a society respond positively to an innovation, the result is speedier diffusion (especially when positive experiences are subsequently shared with other potential innovation adopters). As innovation-based scepticism often slows down the overall diffusion process (Rogers 1983, 2003), education (i.e. the promotion of positive outcomes and effects) is essential if people are to successfully adopt an innovation. Thus, the key to adoption is knowledge. In the context of this study, well-planned professional development courses (i.e. with the TPACK framework in mind) would impact positively on technologicy adoption rates. Once teachers grasp the importance and accessibility of this new knowledge set, they will feel more

enthusiastic about employing new technologies. This increased enthusiasm will result in faster innovation adoption rates. It is not easy for teachers to change their pedagogies. Teachers usually feel most at ease and comfortable with what they already know (Fullan, 2007). A couple of the interviewed teachers felt that way, which meant they were amongst the last to adopt new technologies.

Accordingly to Rogers (1983, 2003), many teachers first implement educational technologies subsequent to attending inter-visitation or workshop-based activities at their own or other schools. Teachers are motivated to adopt pedagogical technology when they see how it can be employed successfully. Moreover, when teachers elect to imitate their colleagues (i.e. by employing new technology), they also inspire other colleagues to engage with new educational technology. Innovations spread faster within interconnected social systems.

Rogers (1983, 2003) divides innovation adopters into five groups: innovators, early adopters, early majority, late majority and laggards. In Kuwait, there were no real innovators as such. The innovation in question (educational technology) was introduced by supervisors, not teachers. Thus, as Kuwaiti teachers implemented educational technology not to innovate, but solely to adhere to the Ministry's policy regarding the new curriculum, they do not really fit into the aforementioned innovators group. However, innovations are unable to thrive without commitment and knowledge, but supervisors lacked both commitment and knowledge (i.e. they had no TPACK knowledge). It is not really plausible that innovators with no innovation-based knowledge are capable of successfully spreading an educational-technological innovation.

This study's data show that the innovators in question (i.e. the supervisors) did not really understand the importance of their role in the innovation diffusion process. Essentially, supervisors felt that teachers were responsible for their own knowledge acquisition and did not require in-depth guidance or instruction.

Early adopters are the first to adopt an innovation, to whom other groups look for inspiration and advice. They are the first group to learn from and adopt the innovations of innovators (Rogers, 1983). In Kuwait, as there were no innovators, early adopters were also expected to act as innovators. Supervisors expected teachers who had attended the training programme to subsequently conduct model lessons and workshops for their colleagues (the expectation being that other teachers would consequently feel motivated to imitate their colleagues and thus incorporate educational technology into their teaching practice). As early adopters, these teachers were regarded as knowledgeable and successful by their peers, and thus able to convince other teachers to adopt educational technology. This group (which acted as both innovators and early adopters) was composed of a very small number

of teachers. In terms of their motivation, these teachers had observed the positive effects of educational technology, and were thus keen to 'spread the word' amongst their colleagues. They had mostly taught themselves how to use educational technology (i.e. through trial and error or searching online for technological pedagogical knowledge).

In a way, this group is somewhat problematic: as innovators and early adopters, members of this group were both developers and introducers of the innovation in question. Although they essentially undertook the role of innovators, they were not the group which originally introduced the idea of using educational technology (that was the supervisors). However, the supervisors were not really innovators (they essentially lacked any kind of effective or communicable technological knowledge of the innovation in question). However, regardless of their effectiveness, supervisors were the group that first introduced the innovation to teachers.

The early majority group are the first to adopt an innovation subsequent to the early adopters. This group adopts innovations before the average person would. Although early majorities are not leaders, they do listen to and learn from their more knowledgeable early adopter peers. Essentially, early majorities need to see that an innovation is successful before they will consider adopting it.

The early majority group is one of the larger groups. Early majorities tend to grow through peer-to-peer interaction. While many of the interviewed teachers did adopt the innovation (technology, in this case), they did not really change their pedagogical approaches or skills. To that end, although teachers employed educational technologies, classes remained teacher-centred and the educational content was conveyed in a predominantly traditional format and context. Most teachers based their innovation adoption on the use of KeyNote slide-show presentations. With that in mind, Voogt et al. (2013) claim that teachers need TPACK knowledge to be able to change their pedagogies (i.e. deliver interactive lessons). Nonetheless, because the use of such technology made the presentation of educational content easier, teachers were motivated to adopt the innovation.

Additionally, students' reactions motivated teachers to adopt the innovation. Teachers felt that education technology motivated students to participate in classes and held their attention for longer. Even though participant teachers did not change their pedagogies, students still enjoyed the use of both animated presentations and videos. Although slide-show presentations are not ideal for Grade One students, they still constitute a form of digital technology. Young children perceive technology as playful and fun. Thus, their excitement encouraged teachers to adopt the innovation. This study observed that the teachers in this group were enthusiastic to learn new skills and knowledge and were not discouraged to adopt because of knowledge-based shortcomings. On the contrary, they actively

sought new knowledge. They wanted to learn from more knowledgeable peers and to that end attended private training courses. Such courses proved helpful, as these teachers did not want to innovate (like early adopters), but also did not want to employ educational technology solely for the Ministry's sake.

The late majority group wait until the adoption of an innovation is absolutely necessary. Late majorities are very reluctant to engage with innovations and require a lot of convincing. This study's data indicate that late majority teachers adopted educational technology solely due to their evaluations. Although this group did eventually adopt the innovation, they only did so because they feared that their annual evaluations would be negatively affected if they did not. Evaluation reports are very important to teachers. Teachers will do almost anything they are asked to ensure high evaluation scores. Many teachers felt that their supervisors used their evaluation scores as leverage to make them implement educational technology (even though they were not necessarily convinced by it). Teachers stated that they repeatedly told their supervisors that they did not know how to use such technologies and did not understand the educational benefits. While most teachers adopted the innovation because of their evaluations, many also did so because they did not want to be left behind. However, both motivations essentially meant that teachers used digital technology in a predominantly perfunctory manner and did not really venture beyond the basic classroom applications. Teachers did not really have their students' educational interests at heart. Teachers also criticised the extent to which the Ministry failed to prepare them for the implementation of new technology. However, again, such teachers did not adopt the innovation because they believed in its use and positive educational impact, but only so as not to be left behind and to satisfy their superiors. This was one of the major adoption barriers for the laggards (the last group to adopt).

Rogers (1983) states that laggards are the last group to adopt an innovation (as dicussed in Chapter 8, this is a problematic term, but it is used here in order to be consistent in the adoption of Rogers' framework). In the context of this study, laggards were mostly socially isolated teachers with markedly traditionalist perspectives. Laggards do not like change and stubbornly hold on to past practices. This group commonly slows down the diffusion of an innovation. Of all the aforementioned groups, laggards are the smallest. In Kuwait's case, as with the other groups, laggard teachers resist change because they do not understanding the benefits of educational technology. Interviewed teachers stated that they felt overwhelmed by the amount of work they needed to do to plan their lessons and satisfy their supervisors. As stated by Robinson (2009), laggards adopt of out necessity, not contentment. Essentially, they adopt innovations for the wrong reasons.

Laggard teachers do not understand why they need to change their tried and tested pedagogies. Furthermore, they do not comprehend the positive impact educational technology might have on their students' learning processes, content retention and outcomes. Such teachers see technology as an unnecessary waste of time, and as irrelevant to learning. Regardless, laggard teachers did eventually adopt the innovation, but in an extremely perfunctory manner (i.e. by using KeyNote with simple non-animated slides).

Depending on the prevailing features, I extensively evaluated the interview data in order to determine the adoption group in which teachers could be placed. As discussed previously, this was also a challenge, as this approach did not allow for a more nuanced understanding of the implications of the values and traditions of teachers. The sorting of the teachers into different groups was not an easy task. Teachers' responses at times indicated that their practice shifted at times across Rogers' continuum. Thus, the categories developed which were based on Rogers' research (2003;1983) may be quite interrelated because some of the teachers interviewed fell across categories, and they could be assessed as fitting two, not just one, category descriptors. As explained, teachers have ideas and viewpoints that alter and develop on a daily basis, just like any other person. Overall, however, it was possible to assign teachers loosely to one primary category, and the application of Rogers' theory has been helpful in terms of explaining how creative teaching is spread within a group.

The results obtained from the questionnaire align with Roger's (1983) adoption rate graph (i.e. although the results were not identical, they were very similar). Still, it should be noted that the data do not acknowledge the 'innovators as adopters' group (the questionnaire was directed at teachers who were not themselves responsible for presenting the innovation to their professional social circle). Furthermore, whilst qualitatively analysing the data, the pre-set adopter categories overlapped. This proved challenging, as many of the teachers essentially fell in-between the defined categories. Nevertheless, the categories were useful in illuminating how the innovation rolled out across the schools involved. However, this is not to suggest that the teachers met the category profiles neatly. As discussed previously, categories overlapped and therefore judgements had to be made about what category best fit a teacher's profile.

9.3 Limitations of the Study

This study's main limitation relates to the shortage of literature on both the new Kuwaiti curriculum and the implementation of educational technology in Kuwaiti schools. Most of the identified literature is theoretical and non-specific. Limited literature was identified that discusses the use of educational technology in Kuwaiti primary schools, and no literature was identified that discusses the relationship between language learning (at all levels) and educational technology.

One approach that could have enriched my research further was classroom observation. This would have given me futher insights into not only what teachers were saying, but what they were actually doing in practice. It would have given me the opportunity to link the interview responses and what was really happening in their working classrooms. Nonetheless, the interview data were rich, and interviewing respondents twice meant that their views were explored fully and any inconsistencies in responses could be followed up.

Moreover, some participants were happy to meet outside the school environment; these participants were interviewed in a relaxed public environment of the participant's choice, while others preferred to have their interviews at their own schools. Because I was an approved person who entered their schools officially, although their interviews were undertaken in private, they might still have worried about how their reponses would be interpreted by myself, as well as how their words would be communicated and understood elsewhere. That might have limited what they wanted to say and held them back from giving me full accounts of what was going on.

The participants in this research was not as diverse as I had originally hoped, in that I would have liked participating teachers from each educational district. However, I did gain valuable information from those who did participate in the research, which enabled me to explore issues in depth. Furthermore, I was not able to interview as many supervisors as I had originally intended. I was hoping to interview a supervisor from each educational district, but unfortunately only two supervisors responded (from two districts). Nevertheless, those I did interview offered some valuable insights into the process.

9.4 Implications of the Research for Policy and Practice

There are two main barriers to the implementation of the new curriculum in Kuwait: 1) providing digital devices; and 2) ensuring teachers are fully prepared to integrate the new technology.

The first barrier is easier to overcome than the second. The Ministry needs to budget for the provision of devices to schools and teachers. To that end, the Ministry did state that schools would be provided with the necessary tools and support during the implementation period. However, the Ministry essentially failed to uphold this commitment. Whilst some schools did obtain data projectors, these were purchased independently. In other words, head teachers decided the extent to which schools would budget to obtain the necessary devices. Thus, as device-budgeting differed from school to school, implementation preparations were not uniform across Kuwait. Essentially, each school was on its own. As most schools opted to preserve their budgets for other expenses, teaching staff were often obligated to obtain their own digital devices.

The mandate for the new curriculum stated that teachers and students would be provided with all the necessary operational content (i.e. learning materials and devices). However, no such content was provided to schools during the 2015–2016 academic year. All participant teachers had to buy their own handheld devices and Wi-Fi connections, and most had to buy data projectors and speakers.

There must be a connection between implementing technology in education and decisions changing teachers' pedagogy when a policy is set to involve an educational reform, especially when educational technology integration is part of this new reform. The most effective way to successfully implement educational technology would be to provide Kuwaiti state schoolteachers with access to effective professional development training courses, as well as further professional development opportunities and support throughout the academic year. Although the official guide to the new curriculum states that teachers would be provided with ongoing pedagogical methods and practice-based training and development opportunities, this study identified that, to date, the Kuwaiti government has failed to uphold such commitments. Pre-implementation training programmes should have concentrated on conveying the manner in which technology can positively transform teachers' pedagogies. Furthermore, such programmes should have sought to provide teachers with new knowledge based on a sound TPACK framework. Focusing such training solely on technology integration and technical knowledge would most likely have proved ineffective in terms of facilitating the desired innovation. Teachers need to understand both the new curriculum's content and the manner in which new pedagogies and technologies can help them ensure that students meet the required competencies thereof.

The Ministry of Education needs to re-asses and re-plan its professional development courses if it is to overcome the barriers currently faced by Grade One teachers. This study's findings indicate that teachers are willing to learn new technology and subject content-based pedagogical skill sets.

Furthermore, once they understand the potential applications and benefits, teachers are willing to integrate technology into their pedagogical practice. Moreover, course trainers need to be more knowledgeable and eager to teach teachers about technology integration. Furthermore, it is essential that trainers understand the TPACK framework. If both teaching and learning are to be transformed, more discussions and workshops need to be conducted with teachers. Such training opportunities should be practically orientated (i.e. encourage teachers to apply new knowledge and skills), unlike the theory and lecture-heavy courses seen in 2015. However, if the content of such training courses does not change, then supervisors should at least improve their knowledge of TPACK. If trainers understand the TPACK framework, they will be able to positively affect and alter teachers' pedagogical practices.

The TPACK model is useful in understanding how teachers' subject knowledge has to be appropriate for effective technological use. But as a model it is limited in that it does not take into account a range of other factors, such as teachers' levels of confidence around technology, their history of using it and their experience of using it in their classrooms. The model has to be used alongside the acknowledgement of other factors impacting on teachers' practice. That is why, in this thesis, I also drew on the work of Ertmer (1999), who examined the barriers and enablers discussed in facing using technology. This offered me a means of understanding the wider context of teachers' use of technology in the classroom.

My findings suggest that teachers who have a positive attitude and a high degree of technological confidence are more likely to use technologies in their classrooms than those who just have technological pedagogical and content knowledge. That is why well-designed professional development is needed to help early childhood educators build knowledge of technological content, but also introduce age-appropriate pedagogical practices that are associated with a play-based philosophy. The contribution this thesis makes to knowledge is that it illustrates the value of TPACK as a model for understanding teachers' readiness to use technology in the classroom, but it also demonstrates that this model has got to be used alongside an understanding of other factors affecting the integration and adoption of technology as part of teaching practice, such as levels of teacher confidence, personal experience of using devices, history of technology use in school, availability of resources, training experiences, level of compliance with school/ government policies and level of desire to conform to inspection practices. The thesis thus makes a contribution to knowledge, as it extends the TPACK model to include consideration of a wider set of contextual factors that impact on teachers' beliefs and practices with regard to technology integration in the classroom.

If teachers grasp this new knowledge set and fully understand how to integrate technology into pedagogical contexts, they will adopt the Ministry's innovation faster and innovate more themselves. This study's data indicate that teachers currently lack technological-pedagogical knowledge and require specialist training to make up for the various failings of the Ministry's original training programme. Once these teachers are trained effectively, they will be ready to overcome the various barriers to technology-based implementation of the new curriculum. This study's results indicate that teachers need to change both their practices and practice-based perspectives if they are to successfully implement the new curriculum (i.e. if they are to effectively switch from passive to active learning models). Teachers should strive to use digital technology in interactive learning contexts, not simply as a medium for traditional slide-show presentations. Teachers need to understand the impact their teaching methodology has on students' learning, retention and outcomes. Furthermore, teachers need to comprehend that educational technology is an effective active learning aid, not simply a means to present traditional passive content.

The Ministry's guide states that school administrations (specifically school principals) are responsible for providing teachers with ongoing workshops and professional development opportunities throughout the course of the academic year. Such school-based professional development (undertaken to facilitate technology integration) was not addressed by this study's data set. To that end, school needs to identify the various barriers teachers face whilst implementing the new curriculum and design plans to overcome them. As the new policy recommends, Heads of Departments must collaborate with their teaching staff and offer professional solutions to any identified issues or barriers. Heads of departments are also responsible for organising teaching, technology implementation and professional development learning workshops and opportunities for teachers; such educational opportunities are meant to ensure the meaningful integration of the desired pedagogical-technological innovation and help to facilitate adequate student learning outcomes. Participant teachers repeatedly stated their desire for such training opportunities in their interviews and on the questionnaire. Ideally, subject supervisors should collect and respond to recommendations submitted by Heads of Departments regarding the kind of professional development training and opportunities teachers require.

Teachers should be trained by qualified trainers (i.e. trainers who specifically understand how to train teachers). Such trainers should understand that teachers often need to switch teaching styles to cater for different students' learning needs (not all students assimilate knowledge in the same way). Based on teachers' responses, this study's data revealed that although Kuwaiti teachers are indeed convinced of the importance and value of educational technology, regarding the implementation of the new curriculum, teachers were not adequately prepared (i.e. in terms of both knowledge and skill sets) to

implement such technology-based innovations. Additionally, supervisors need to recognise the fact that having devices present in classes does not mean that pedagogical changes will automatically occur. Supervisors must admit that they failed to adequately prepare teachers for the task of integrating educational technology into their pedagogical practices. To that end, positive solutions must be identified if better implementation-based outcomes are to be obtained. Teachers need to take part in carefully planned training programmes if they are to change their beliefs, develop their technological-pedagogical skills, expand their pedagogical content knowledge and learn how to effectively integrate technology. Only then will positive changes begin to occur.

9.5 Implications of the Study for Future Research

The findings of this study offer some insights into topics to study in further depth. Firstly, it would be good to return to the cohort of teachers interviewed for this study in a few years' time in order to identify if there is any development in teachers' TPACK knowledge. Such a study could explore any changes that have occurred in teachers' knowledge, in addition to understanding what has influenced the changes in teachers' pedagogical skills, if any.

Secondly, there could be an investigation of the impact of other forms of continuing professional development, such as model lessons, collaborative research projects in networks of schools, and so on. It is important to identify modes of professional development that work most effectively in relation to implementing change and innovation.

Thirdly, a comparison of the integration of education technology between private and state schools could be undertaken. Because teacher training is done differently in private and state schools, studying this area could foster an understanding of how teachers are prepared in two different contexts available in Kuwait, thus potentially impacting on teachers' professional development and creating more cohesion in terms of a national approach to educational technology.

9.6 Conclusion

As my literature review revealed, a very limited amount of research has been conducted in Kuwait (Al-Awidi and Aldhafeeri, 2017; Al-Awidi and Ismail, 2014; Alharbi, 2012; Aldhafeeri et al., 2016) that focuses on the integration of educational technology into schools in general, and into primary stage education in particular. The main strength of this study is that it is the first in its field to

investigate the factors affecting the speed at which technology is being integrated into English language classes in state primary schools in Kuwait. Many factors were identified and subsequently investigated via interview and questionnaire methods.

This study's findings reveal both the readiness and ability of teachers and school administrations that participated in this study to implement the various pedagogical-technological elements of the new curriculum. Furthermore, this study has examined the opinions and perceptions of both participating teachers and subject supervisors thereof. Additionally, light has been shed on the gap between the policy set by the Ministry of Education and the practices currently employed in schools. This study's findings will inform the Department of Planning and Improvement about to where the 'cracks' in the implementation of the new policy are (i.e. help them to overcome the barriers preventing the effective and speedy diffusion of educational technology in Kuwaiti schools). Although I would not generalise on the basis of these numbers, I would argue that this is likely to be similar in other contexts.

The study has contributed to several educational areas: teachers' professional development, technology integration in education, and educational research in Kuwait. This study has highlighted the barrriers to trying to implement a new policy in relation to intergrating new technologies in teaching. This in turn might inform future planning of how to integrate technologies into schools.

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APPENDICES

Appendix 1: Copy of Online Questionnaire

Technology in ELT

Technology use in English Language Classes in Kuwait in Grade 1

1. What is your gender?

- ○ Female
- ○ Male

2. What is your age?

- ○ 18 to 24
- ○ 25 to 34
- ○ 35 to 44
- ○ 45 and older

3. Where did you study?

- ○ Kuwait University
- ○ College of Basic Education
- ○ Gulf University for Science and Technology
- ○ Other

4. How many years have you been teaching?

- ○ 0-5
- ○ 6-10
- ○ 11-15
- ○ 15 and more

5. In which governate do you work?

- ○ Al- Asimah
- ○ Hawalli
- ○ Al- Farwaniya
- ○ Al- Jahra
- ○ Mubarak Al- Kabeer
- ○ Al-Ahmadi

6. Please tell me what do you think about technology

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I think technology can help children's learning	◯	◯	◯	◯	◯
I think the use of technology in schools is exaggerated in its benefits	◯	◯	◯	◯	◯
I think technology can be useful for my lesson plans	◯	◯	◯	◯	◯
I think technology is important for children's future e.g. employment	◯	◯	◯	◯	◯

7. Please tell me how do you feel about technology

	Very comfortable	Comfortable	Neutral	Uncomfortable	Very Uncomfortable
How comfortable do you feel with technology?	◯	◯	◯	◯	◯

8. Please tell me about your use of technology in lessons

	Daily	A lot - every week	Regularly - at least once a month	Now and again - every few months	Rarely - once or twice a year	Not at all
How often do you use technology in your lessons?	◯	◯	◯	◯	◯	◯
How often do you bring your own device to work?	◯	◯	◯	◯	◯	◯
How often do you allow students to download applications on their own devices to practice the subject?	◯	◯	◯	◯	◯	◯
How much do you use technology for planning your teaching (e.g. searching the internet for information)?	◯	◯	◯	◯	◯	◯

9. Did you attend the training provided by the Ministry of Education for the new Grade 1 Curriculum?

- ◯ Yes
- ◯ No

10. If not, why not?

11. If yes, please reflect on this training

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The training was useful	◯	◯	◯	◯	◯
I learned new ideas to use in my own lessons	◯	◯	◯	◯	◯
Ministry of Education provides IT support	◯	◯	◯	◯	◯
Now I understand how to use technology in my classes	◯	◯	◯	◯	◯
I believe the use of technology in class is essential	◯	◯	◯	◯	◯
I enjoy using technology in my lessons	◯	◯	◯	◯	◯
I am a confident user now	◯	◯	◯	◯	◯
Training amount was enough	◯	◯	◯	◯	◯
Material covered in training was relevant to the curriculum	◯	◯	◯	◯	◯

12. What else would you have wanted to be covered in the training?

13. What teaching aids do you use generally in class?

- [ ] Whiteboard
- [ ] Flashcards
- [ ] Posters
- [ ] Overhead projector

14. What kind of technology do you use in class?

- [ ] Interactive whiteboard/smartboard
- [ ] Computers
- [ ] Tablets
- [ ] Television and video
- [ ] Radio
- [ ] Video camera
- [ ] Music player
- [ ] Datashow

15. What kinds of technology would you like in class, that you don't already have?

16. How many years have you used technology in your lessons?

- ○ 7+ years
- ○ 4 - 6 years
- ○ 1 - 3 years
- ○ Just this year

17. What are the problems you face in using technology more in the classroom?

18. What would help you to use technology more in your classroom?

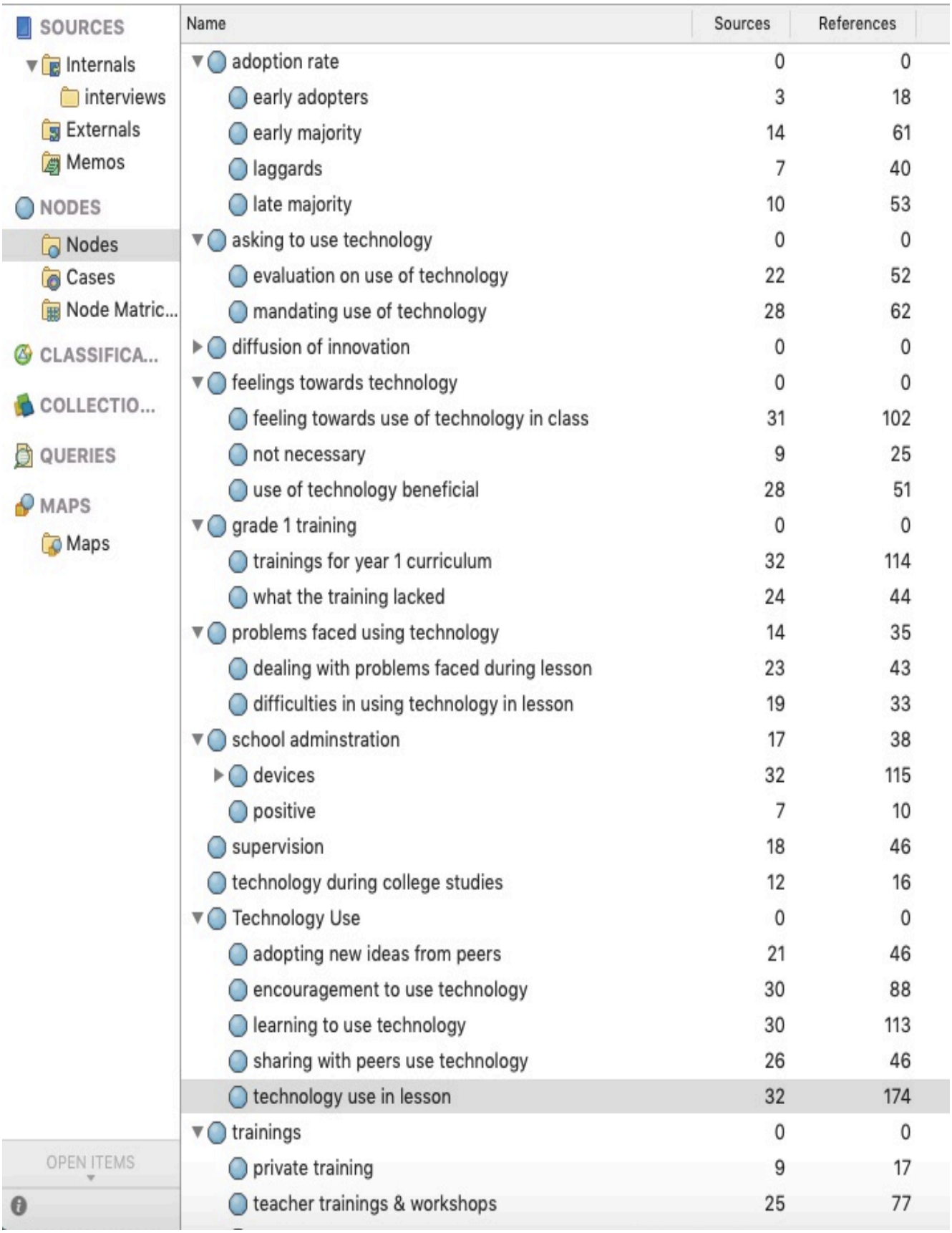
19. Have you any more comments about the use of technology in classroom?

Technology in ELT

Appendix 2: Interview Questions

1. How old are you?
1. How long have you been teaching?
2. Where did you get your teaching degree from?
3. Did you receive training on the use of technology in your initial training?
4. How many grade one 1 classes are you currently teaching?
5. Did you attend any training? If yes, which ones?
6. Did you attend the grade one training program made specifically for the new curriculum?
7. What are your thought about it? Did it cover everything? Did you feel it was beneficial?
8. Did you use technology prior to this current year? If yes, how or what did you do?
9. Do you consider yourself as technology savvy?
10. What aspects did the training lack? What would have wanted to be covered? Or trained more on?
11. Is there any support from the headteacher? English supervisor ? School administration?
12. Do You bring your own devices or are they provided by the Ministry? What does the ministry provide you with?
13. What kinds of technology do you use in class? How is it used? What do you do?
14. What other technologies would you like in your classroom, if any? How would you use them?
15. Do you enjoy using technology as part of your lessons? Do you see/feel its beneficial? How often do you use it?
16. How do you think the use of technology impacts on children's learning, if at all?
17. Do you encourage your students to use tablets/pc's/ipods/etc.. For practise outside of school? Any apps you recommend for example for practise?
18. What are the difficulties you faced with technology/technology related?how did you overcome them if you did? How are you planning to overcome them if you didnt?
19. What do you think of the curriculum mandating that technology has to be used in your lessons?
20. HOW FAR DO you think that the head teacher and supervisor are helping and encouraging you to 'adopt' technology in your teaching?

Appendix 3: Nvivo Tree Nodes



Name	Sources	References
adoption rate	0	0
early adopters	3	18
early majority	14	61
laggards	7	40
late majority	10	53
asking to use technology	0	0
evaluation on use of technology	22	52
mandating use of technology	28	62
diffusion of innovation	0	0
feelings towards technology	0	0
feeling towards use of technology in class	31	102
not necessary	9	25
use of technology beneficial	28	51
grade 1 training	0	0
trainings for year 1 curriculum	32	114
what the training lacked	24	44
problems faced using technology	14	35
dealing with problems faced during lesson	23	43
difficulties in using technology in lesson	19	33
school adminstration	17	38
devices	32	115
positive	7	10
supervision	18	46
technology during college studies	12	16
Technology Use	0	0
adopting new ideas from peers	21	46
encouragement to use technology	30	88
learning to use technology	30	113
sharing with peers use technology	26	46
technology use in lesson	32	174
trainings	0	0
private training	9	17
teacher trainings & workshops	25	77

Appendix 4: Participant Information Form

PARTICIPANT INFORMATION FORM

Research Project Title:
Technology use in English Language Classes in Kuwait

What is the project's purpose?

The aim of the study is to identify what elements affect primary school English language teachers (year 1) of Kuwait to use technology in their classrooms.

Why have I been chosen?

You have been chosen because you are currently teaching year 1 English language curriculum.

Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep.

What will happen to me if I take part?

You will be interviewed and observed twice. And/or you will be asked to complete a questionnaire.

What are the possible disadvantages and risks of taking part?

There are no risks associated with taking part. A potential disadvantage is the time you will devote to interviews and completing the survey.

What are the possible benefits of taking part?

You may enjoy sharing your views about using technology. Participation in the project may enhance your creativity in integrating technology in your own classroom.

Will my part in this project be kept confidential?

All information that will be collected about you during the course of the research will be kept strictly confidential. Your name will be changed in any publications.

How will the data be used?

All collected data will be kept with me in my laptop and password protected.

The data will be analysed by the researcher Sarah AlSabbagh only.

The data will be used to determine how far has teachers' integrated technology into their lessons.

What will happen to the results of the research project?

The results will be used for the researcher's PhD thesis at the University of Sheffield.

Who is organizing and funding the research?

The research is done through a granted scholarship from the Public Authority of Applied Education and Training and the Ministry of Higher Education in Kuwait.

What if something goes wrong?

If any problems at all occur in relation to your participation in the project, either during the project or after it, please contact Sarah AlSabbagh (contact details below).

Who has ethically reviewed the project?
This project has been ethically approved via the University of Sheffield, School of Education's ethics review procedure.

Agreement to Participate

Please note that if you agreed to participate, I accept this as agreement for the following:

- For the researcher to access and analyse the collected data.
- For the data to be saved on the researcher's personal password protected laptop.
- For data to be used in the publication of the researcher's PhD thesis.

Contact for further information

Sarah AlSabbagh

P.O.Box 416
Dasma 35152
Kuwait

Email: Sjalsabbagh1@sheffield.ac.uk
Mobile Kuwait: +96555900008
Mobile England: +447956755466

Appendix 5: Participant Consent Form

University of Sheffield

Participant Consent Form

Title of Research Project: Technology use in English Language Classes in Kuwait

Name of Researcher: SARAH ALSABBAGH

Participant Identification Number for this project: Please initial box

1. I confirm that I have read and understand the information sheet explaining the above research projectand I have had the opportunity to ask questions about the project. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

3. I understand that my responses will be kept strictly confidential I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. ☐

4. I agree for the data collected from me to be used in future research. ☐

5. I agree to take part in the above research project. ☐

Name of Participant (*or legal representative*)	Date	Signature
Name of person taking consent (*if different from lead researcher*) *To be signed and dated in presence of the participant*	Date	Signature
Lead Researcher *To be signed and dated in presence of the participant*	Date	Signature

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project' s main record (e.g. a site file), which must be kept in a secure location.

Appendix 6: Educational Research and Curricula Sector Approval Letter

MINISTRY OF EDUCATION
Educational Research and
Curricula Sector
EDUCATIONAL RESEARCH ADMINISTRATION

وزارة التربية
قطاع البحوث التربوية والمناهج
إدارة البحوث التربوية

التاريخ / / 14 هـ
الموافق 2015 / 12 / 20 م

الرقم : وت /
مرفقات / 519

السيد المحترم/أ.بدرية الخالدي

مدير عام منطقة العاصمة التعليمية

تحية طيبة وبعد،،،

الموضوع/ تسهيل مهمة

تقوم الطالبة/ سارة جاسم الصباغ المسجلة بجامعة Sheffield بالمملكة المتحدة لدرجة الدكتوراة بإجراء دراسة بعنوان: استخدام التكنولوجيا في تعليم اللغة الإنجليزية في دولة الكويت.

فيرجى تسهيل مهمة المذكورة أعلاه من خلال إجراء مقابلات شخصية مع مدرسات اللغة الإنجليزية في الصف الأول الابتدائي في مدارس المرحلة الابتدائية التابعة لمنطقتكم التعليمية خلال العام الدراسي الحالي ٢٠١٥/٢٠١٦.

مع خالص الشكر والتقدير

مدير إدارة البحوث التربوية

أ. إبتسام الحالي

مدير إدارة البحوث التربوية

وزارة التربية
الإدارة العامة لمنطقة العاصمة التعليمية
مدرسة عين جالوت الإبتدائية بنات
مديرة المدرسة

نسخة للملف
Ahlam/2015

Al-Qurain -Block (1)- Street No (1)
Tel.. 25417942 - Fax: 25417694 -25417943
Email. behooth@hotmail.com

Appendix 7: Letter of Approval to Access Primary Schools

State of Kuwait
Ministry of Education
Mubarak Al-kabeer Educational Area
Education Affaires Management

دولة الكويت
وزارة التربية
الإدارة العامة لمنطقة مبارك الكبير التعليمية
مكتب مدير إدارة الشئون التعليمية

نشرة

لجميع مدارس مرحلة الابتدائي

(بنات)

السيدات الفاضلات/ مديرات المدارس المحترمات

تحية طيبة وبعد ...

الموضوع : تسهيل مهمة

تقوم الطالبة / سارة جاسم الصباغ المسجلة بجامعة SHEFFIELD بالمملكة المتحدة لدرجة الدكتوراه بإجراء دراسة بعنوان - استخدام التكنولوجيا في تعليم اللغة الانجليزية في دولة الكويت-

فيرجى تسهيل مهمة المذكورة أعلاه من خلال إجراء مقابلات شخصية مع مدرسات اللغة الانجليزية في الصف الأول الابتدائي في مدارس المرحلة الابتدائية خلال الفصل الدراسي الحالي ٢٠١٥/٢٠١٦م.

وتفضلوا بقبول فائق التقدير والاحترام...

مدير إدارة الشئون التعليمية

وزارة التربية
الإدارة العامة لمنطقة مبارك الكبير التعليمية
إدارة الشئون التعليمية

وليد صباح السعيد
مدير إدارة الشئون التعليمية

نسخة لكل من :
- إدارة الشؤون التعليمية
- الملف
- LAILA 21-12-2015

العنوان: صباح السالم - قطعة٢- شارع عباس بن نخي- الهاتف:٢٥٥١٣٥٩٢

Appendix 8: ELT Evaluation Form

Ministry of Education
E.L.T. General Supervision
Teacher Evaluation

دولة الكويت
وزارة التربية
التوجيه الفني العام للغة الإنجليزية

Teacher's Name:
……..…..

Day & Date	Period	Class	Unit : ……..….. Period No: …….
……..……..…..….	……..…	……	

Teacher's Competences

Personal Qualities & Linguistic Competence			Planning & Preparation		Instruction					Classroom Environment & Interaction					Use of Teaching Facilities	
Having an audible voice & self-confidence	Using fluent, accurate & appropriate language	Maintaining a good rapport with students	Selecting suitable specific competences & relevant activities	Designing an informative, well-organised & systematic lesson plan	Using varied & effective methods/techniques	Developing the target competences through language practice	Using appropriate & sufficient illustrations	Connecting material with school subjects & the outside world	Using effective & varied assessment tools	Using questioning & discussion techniques	Utilizing classroom management skills	Providing sufficient opportunities to promote active learning	Catering for different multiple intelligences & learning styles	Prompting logical, critical & creative thinking	Using appropriate & varied technological means	Providing opportunities to develop learners'ICT skills

Rating Scale: **(I)** Ineffective **(D)** Developing **(E)** Effective **(HE)** Highly Effective

Written Work Follow-up: **Remarks :** [ ] Regular [ ] Accurate [ ] Varied [ ] Adequate

Recommendations : ……..……..….

*** Procedure :**

……..……..……
……..……..……
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*** Remarks & Recommendations :**

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……..……..……

Teacher …….. **HOD** …… **Supervisor** ……