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The challenges and the possibilities to the use of technology in the teaching and learning of English language as a case study.

Submitted by

Mayada Abdulaziz A Alharbi

School of Education

College of Social Science

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Abstract

The use of technology as a strategy for supporting language learning is an area which requires further exploration. Specifically, this study seeks to research the Saudi Arabian school situation. Simply put, the Saudi government dedicated a great deal of time and money into the education sector. However, as researchers have pointed out, there are still weaknesses in Saudi primary schools in terms of using technology in the classroom. The use of technology can help teachers to enhance the students' learning and motivate them, especially with regard to learning English as a foreign language. This study which was based on a case study of a single public primary school in Saudi Arabia employed both qualitative and quantitative methods. Data was collected by conducting a survey, interviews, observations, and experimental research. The study was conducted to gain a deeper understanding on the usage of information in the teaching and learning of English language in Saudi Arabian public primary. The target population was Saudi Arabian school children and their teachers. The study shows that the teachers involved in the study appreciated the importance of technology in teaching EFL. The findings indicate that technologies such as laptops, tablets, YouTube and Internet generally have a positive impact on student language learning, engagement and interest in learning.

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1.0 Introduction

1.1 Background

The current study aims to address a research gap and explore how technology can be used in the context of education in primary schools in Saudi Arabia to support English language learning. The main targets of the study were primary school English teachers and students in a public school in Saudi Arabia. Saudi Arabia is currently focusing on the provision of quality education that is geared towards ensuring that students are well prepared when it comes to handling future challenges such as globalisation, economic change, and cultural diversity (Foreign Credits, 2018). For example, the Ministry of Education appreciates the importance of English language and is putting more effort in its acquisition by learners at all levels of education (Foreign Credits, 2018). Education in Saudi Arabia is free for all students (Foreign Credits, 2018). English has become the major foreign language to be taught in universities, colleges and schools in Saudi Arabia, it being taught in public primary schools from year four through to university (Liton, 2012). Proficiency in English, however, remains low among even those who successfully complete secondary school in Saudi Arabia (Alharbi, 2015 and Al-Nasser, 2015). The use of technology, and especially information technology, provides many options for making teaching and learning more interesting and productive (Cambridge International Examinations, 2015). Some of the technologies that can be used in teaching English include interactive white boards, smartphones, tablets, desktop computers, laptops, and software applications (Cambridge International Examinations, 2015).

Using information technology as part of a language learning strategy is an area that still needs to be explored to provide results with regard to different contexts and age groups. Some research does identify the usefulness of technology in the classroom, but there is much more research that needs to be carried out. While some studies have been conducted on the use of information technology in teaching language, most of these studies have been conducted in western countries including USA, Canada and UK. Few such studies have been conducted in Asian countries and almost none has been conducted in Saudi Arabia specifically targeting the teaching and learning of EFL in public primary schools. More importantly, there is very little understanding of why English proficiency among primary school children in Saudi Arabia remains low. This study seeks to fill this knowledge gap by examining the use and impact of information technology in teaching and learning English as a foreign language in public primary schools in Saudi Arabia.

Studies by Rahman and Alhaisoni (2013), Al-Nasser (2015), and Alrashidi (2015) indicate that even students who successfully go through the country's education system leave school without having the knowledge and skills to communicate or converse in the language. As noted by Alrashidi (2015), teaching and learning of English language is done merely to pass examinations, as opposed to being considered a life skill. This has led the researcher to consider the issues related to low progress in the learning of English among students, and this study has been conducted in an attempt to understand the situation in greater depth.

Rahman and Alhaisoni (2013) and Al-Nasser (2015) studied the challenges and prospects of teaching English in Saudi Arabia. Some of the challenges the researchers have identified in this regard include lack of proper training among teachers, the

application of teacher-centred (as opposed to student-centred) learning activities, and low exposure to English language. On the other hand, a study by Buabeng-Andoh (2012) identified factors affecting the adoption and use of Information Communication Technologies (ICT) in education. Buabeng-Andoh (2012) concluded that the knowledge, feelings, and attitudes of teachers are some of the factors that affect the application of technology in their classrooms. Successful implementation of technologies in education, to a large extent, depends on the attitudes of teachers, who in the end determine the way they are applied in the classroom (Albirini, 2006).

Against this background, this chapter outlines the general background to the study. The context of Saudi Arabia education is then discussed in terms of English language learning as a foreign language. Also, the rationale for the importance of this study is provided. There is also a discussion about the use of technology as a tool in the education system. Subsequently a discussion about the research aims and questions, an overview of the methods of this research, and a consideration of the participants of this study is provided. Finally, a statement with regard to the originality of this study will discussed.

1.2 Education and School System in Saudi Arabia

The education system in the Saudi Arabia is primarily under the authority of the Ministry of Higher Education, the Ministry of Education, and General Organisation such as Technical Education and Vocational Training (Future School, 2018). The Ministry of Education currently oversees general education for boys and education for girls (World Education News and Reviews, 2001; Saudi Arabian Cultural Mission, 2013). Both boys and girls follow the same curriculum and sit for the same annual examinations.

Educational policy in Saudi Arabia seeks to achieve a number of objectives (Saudi Arabian Cultural Mission, 2013). One of its key objectives is to ensure the efficient provision of education that meet economic, social, and religious needs of the country so as to eradicate illiteracy among adults in the country (Saudi Arabian Cultural Mission, 2013). Several government agencies are involved in planning, administrating and implementing the country's educational policy. The Ministry of Education in particular is charged with the responsibility of setting overall standards for the country's educational system and overseeing special education that targets the disabled (Al-Ghamdi and Al-Saddat, 2002; Saudi Arabian Cultural Mission, 2013).

As noted by AlMarwani (2013), in Saudi Arabia, public education is open to every citizen. All citizens are thus free to attend primary school, intermediate school, high school, and university. General education in the country comprises four stages; kindergarten, primary, intermediate and secondary (AlMarwani, 2013) and the school academic calendar is divided into two or three terms. Primary and secondary schools have three terms that begin in late August and end in June. Children aged 3-5 may attend pre-school/kindergarten if their parents so choose (Foreign Credits, 2018). The kindergarten stage which provides elementary education has been gaining great interest and acceptance over the years (AlMarwani, 2013). At the age of six, children are required to enrol for primary education which lasts six years (AlMarwani, 2013). Statistics from UNESCO indicates that total enrolment for girls and boys in primary school is 96.3% and 99% respectively (Foreign Credits, 2018). The primary education curriculum includes Arabic, geography, home economics (for girls), science, Islamic studies, mathematics, art education, history, and physical education (for boys) (United Nations Educational, Scientific, and Cultural Organisation (UNESCO) and International Bureau of Education, 2011). In Saudi Arabia, primary school learners are

generally given a lot of homework almost daily, and are expected to submit their homework for marking in the next school day, which overburdens both the learners and their parents who have to push or help them to complete these assignments (Kadi, 2013). Furthermore, according to UNESCO (2016), the student teacher ratio in Saudi Arabian primary school stands at 11.68 and class sizes average 40-50 students.

After successfully completing primary education by passing an examination leading to the award of *Shahadat Al Madaaris Al Ibtidaa'iyyah* (General Primary School Certificate), pupils proceed to intermediate level where they learn for three years (UNESCO, 2016). The total enrolment rate for students at this level is estimated at 47% for girls and 96% for boys according to Foreign Credits (2018). At intermediate school, the general curriculum comprises science, religious studies, physical education (for boys), home economics (for girls), mathematics, history, geography, Arabic, art education, and English (Al-Ghamdi and Al-Salouli, 2013).

When the students successfully complete the intermediate level, students are awarded the Intermediate School Certificate (*Shahadat Al-Kafa'at Al-Mutawassita*) (UNESCO , 2016) and proceed to high school which takes three years (UNESCO, 2016) High school is the last stage offered free of charge in the country. It is at this stage that students have an option to choose between continuing with general education and going for specialised education (Future School, 2018). Students who take the specialised option go to technical secondary institutes where they receive technical training in fields such as commerce and industry, and agriculture. It is estimated that enrolment in High education stands at 91% (Foreign Credits, 2018). In General Education, students in their first year share a common curriculum. In the second and third years, however, the students are divided into two streams (Foreign Credits, 2018). Students who score

at least 60% in all the subjects they take in their first year of study may choose to go to either the scientific stream or the literary stream (Ministry of Education 2011). On the other hand, those who do not meet this pass mark have no option but to join the literary stream. The general curriculum for High School includes physical education (for boys), home economics (for girls), religious studies, mathematics, history, geography, chemistry, Arabic, biology, and English (Al-Ghamdi and Al-Salouli, 2013). Those who successfully pass the General High Examination are awarded the General High Education Certificate (*Shahadat Al-Marhalat Al-Thanawiyyat)* (Foreign Credits, 2018). Other general education services include adult education (which admits students without setting a limit to their age), special needs education (which provides education to the deaf, blind and persons with intellectual disability), and private and international general education (AlMarwani, 2013).

So far, there is limited officially published data related to the school system in Saudi Arabia and the total number of primary schools in the country keeps changing as new schools are established every year. The country has more than 150 centres offering vocational training aimed at reducing Saudi Arabia's reliance on oil as a source of income (World Education News and Reviews, 2001). Students may go for vocational education which focuses on areas of growth such as manufacturing of vehicle parts and metal processing. Saudi Arabia also has 24 public universities offering degrees in such fields as engineering, pharmacy, humanities, social sciences, and medicine according to (Ministry of Education 2011). University degree courses in Saudi Arabia take four to six years to complete depending on the field of study. At the university level, students study religion alongside other subjects. The study of religion is compulsory for all students at university level (World Education News and Reviews, 2001). Saudi Arabia has two universities primarily focused on the study of religion; The Islamic University

of Medinah and the Imam Muhammad bin Saud Islamic University. However, the Saudi Arabia government also offers some scholarships annually to students who wish to study in foreign countries (World Education News and Reviews, 2001).

In Saudi Arabian schools, colleges, and universities, the most commonly applied methods of teaching and learning the curriculum are through the use of books and lectures (Alharbi, 2015). While the government of Saudi Arabia is making efforts to integrate technology in schools, this initiative is faced with numerous challenges (Saqlain Al-Qarni and Ghadi, 2013). For example, lack of understanding of technology among most teachers in Saudi Arabia is a major challenge to the implementation of technology in education (SaqlainAl-Qarni and Ghadi, 2013). Furthermore, in many regions, there is generally little or no access to the technologies that can be applied in teaching and learning (SaqlainAl-Qarni and Ghadi, 2013).

1.3 English Language Learning in Saudi Arabia

Like it is in many other Arabic–speaking countries, English language is hugely important to Saudi Arabia and is the main foreign language taught in universities, colleges, and schools in the Middle East (Liton, 2012). To meet developmental needs, Saudi Arabia's Ministry of Education introduced into the school curriculum, in 1925, English as a foreign language (EFL) (Alnofai, 2010; Alshahrani, 2016). Further appreciating the importance of English skills, the Ministry of Education introduced English in the Saudi educational curriculum as one of the major subjects, effectively making it a compulsory subject studied from grade four (primary school) to university level (Dirou, 2016). However, many students learn the language merely to pass examinations and not as a life skill (Stone, 2014; Alrashidi and Phan, 2015; Al-Nasser, 2015).

In public classrooms, a communicative approach to teaching English is rarely used (Alharbi, 2015). As a result, English lessons are teacher-centred and students are reduced to passive receivers of information. As noted by Al-Nasser (2015), even after completing secondary school, students lack the ability to engage in a short conversation in English. This being the case, English seems to be taught not as a language for communication, but rather as a subject in schools. Learning of English in schools is commonly done by repeating words and phrases to aid memory (Alharbi, 2015). On the other hand, many private schools offer bilingual or English medium programs. In many of the country's universities, English is an entry requirement and is the language of instruction (Dirou, 2016). Appreciating the importance of English in multinational working environments, many adults and children in Saudi Arabia attend additional English-language courses as a way of supplementing what they formally learn in school, or to prepare for English language proficiency tests like TOEFL (Test for English as a Foreign Language) and the International English Language Testing System (IELTS) (Dirou, 2016).

That Saudi Arabia has made progress in English proficiency over the years has been demonstrated by the results of a recent study conducted by EF Education First, an education company that focuses on academic, educational travel, cultural exchange, and language programs (Hassan, 2018). According to the results of the study, which drew on data from 1.3 million non-native English speakers in 88 nations and regions, Saudi Arabia made improvements in its ranking on the EF English Proficiency Index (EF EPI) (Hassan, 2018). The country scored 43.65 and was ranked 83rd globally, ahead of Iraq, Libya, Uzbekistan, Afghanistan and Cambodia. Topping the list of Gulf Cooperation Council (GCC) countries was the United Arab Emirates (UAE) which score 47.27 and was ranked 71 globally. Lebanon was ranked the top Middle East

country at position 33 globally with a score of 55.79 (Hassan, 2018). The following section will discuss the challenges faced in the learning of English by Arabic speakers.

1.4 Challenges Faced in the Learning of English by Arabic Speakers

According to Al-Nasser (2015) several challenges affect the learning of English in Saudi Arabia. English presents a number of challenges to Arabic speakers, which requires English language teachers to make relevant adjustments to their teaching where possible (Dirou, 2016). One of these challenges relates to the completely different writing system including differences in the grammatical systems of Arabic and English. For Arabic speakers, for example, English looks backwards given that Arabic is written from right to left. At the same time, unlike English, Arabic has no upper and lower case letters. This being the case, mixing capital and lower case letters within sentences is a common mistake among Arabic speaking learners (Dirou, 2016). Furthermore, many sounds corresponding to letters or characters in the English language cannot be pronounced conveniently by native speakers of the Arabic language.

Also, from their previous experiences, Arabic speakers may have different expectations in relation to the role of the teacher (Al-Nasser, 2015). In this regard, many Arabic learners may not have experience with communicative learning environments and will most likely expect the teacher to invest a lot of time in explaining and correcting mistakes (Dirou, 2016). Learners may also not be comfortable picking on the mistakes made by other people or working in groups or pairs, and may find learning activities that involve discovery frustrating. The differences in the culture of the teacher and their Arabic speaking students may affect how lessons are planned and the classroom environment (Alrashidi and Phan, 2015). For example, in Saudi Arabia, it is not be

appropriate for girls and boys to sit in the same class or to include female family members on a family tree.

Arabic and grammar-translation are commonly applied in public schools to teach English (Alrashidi and Phan, 2015). Grammar-translation and other methodologies applied in teaching are reliant on first language and learners are not given exposure to real world situations requiring the use of English language (Al-Nasser, 2015). In the classroom, students are often taught English using the native language, Arabic (Al-Nasser, 2015; Alrashidi and Phan, 2015). Similarly, communication outside the classroom even between English language teachers and their students is also commonly done in Arabic. As a result, students are not motivated to learn the English language for real life communication or use. In this regard, Al-Nasser (2015) suggests that the use of first language to teach English should be discouraged even among teachers while in school especially given that pupils are keen observers and learn mostly by looking at situations and people around them.

Another challenge affecting English learning is that curricula and the contents featured in text books are commonly based on deductive activities and unrelated topics (Assalahi, 2013). As a result, critical thinking and communication skills are often neglected (Sofi, 2015). Furthermore, the traditional method of teaching is mostly applied to the extent that teaching aids such as laboratories, videos, computers, projectors, and tablets are not incorporated in teaching. According to Al-Nasser (2015), teachers are also not up to date with the latest teaching methods that can be used in the field to improve outcomes of the education. As noted by several analysts, some of these challenges can be effectively dealt with through the use of technology in teaching and learning (Shyamlee, 2012; Yaverbaum, Kulkarni and Wood, 1997).

1.5 Rationale for Learning EFL using Information Technology in Saudi Arabia

Al-Seghayer (2011) notes that there are several advantages associated with learning English. Being a global language, English enhances the global reach and competitiveness of a country. It also enables the country to maintain its interests and political security. By learning English, multilingual citizens can better appreciate cultural differences (Shyamlee, 2012). According to Al-Seghayer (2011), evidence shows that students who know English are more creative, have a deeper appreciation for cultures, are generally better problem solvers, and have higher academic achievements. Even so, several researchers have pointed out some of the challenges of teaching and learning EFL (Stone, 2014; Alrashidi and Phan, 2015). Generally, the traditional approaches to teaching English in Saudi Arabia have led to the students having low achievement in English language communication according to Al-Nasser (2015). Also, these methods and approaches have not effectively served to motivate students to learn the language or increase their interests in its acquisition (Shyamlee, 2012).

According to Shyamlee (2012), technology provides many options for making teaching and learning more interesting and productive. Multimedia technologies particularly present a sense of reality which motivates and involves the students in learning English. Using technology in teaching EFL can help in enriching the content being taught to students (Al-Seghayer, 2014). In addition, it can help shift learning from being teacher-centred to being student-centred, therefore, improving learning. During the teaching process, the role of the teacher as a facilitator becomes important and technology provides a good platform for the exchange between learners and the teacher (Shyamlee, 2012). The use of technology in teaching can also help improve the interaction between

teachers and their students (Shyamlee, 2012). As a result, it can also help in improving the ability of students to listen and speak and therefore develop their communication in English.

Saudi Arabian English classes are often characterised by the strict following of the curriculum and course material so as to complete the syllabus within the time set by the government (Al-Seghayer, 2014). The use of information technology in teaching English can provide room for flexibility in the classroom, departing from the tradition of over reliance on course material (Shyamlee, 2012). Students can also use technology to their advantage to learn more within and outside the classroom environment than they would only from their course text books. The use of computing technologies in class enables teachers to vary the styles of presenting their lessons (Yaverbaum, Kulkarni and Wood, 1997). This can motivate students with different interests and learning styles, and enhance learning for diverse learners. As a result, learners benefit through increased language retention.

1.6 Information Technology as a Tool for Supporting Learning and Teaching English

The dynamic nature of technology has no doubt contributed to the development of different concepts and definition of technology. Studies conducted in the past have made it clear that defining the concept of technology is not easy and thus technology has to be defined from different perspectives (Reddy and Zhoa, 1990). In agreement, Blomstrom and Kokko (1998) note that "technology" is an abstract concept that is also difficult to observe, interpret, and evaluate. Further adding to the debate, Lan and Young (1996) emphasize that the definition of technology varies from author to author as well as based on the context of disciplines. Kumar et al. (1990) notes that technology

is made up of two primary parts: 1) a physical part that includes items such as equipment, blueprints, processes, techniques, tooling, and products; and 2) the informational component that includes know-how in specific areas. In education technology has been defined in different ways. According to Rhonda et al. (2015), technology includes physical hardware, software and educational theory to enable learning and the improvement of performance by making, applying, and managing appropriate resource and processes. Technology has also been defined by Januszewski and Michael (2007) as the technological tools and media that facilitate or assist the development, communication, and exchange of knowledge. Information technology is one of the technologies that are increasingly gaining acceptance and use in education across the world.

Information Technology (IT), which is a subset of technology, has also been defined differently by different authors and experts. Nilsen (2001) relates IT to the acquisition, processing, storage, and distribution of pictorial, numerical, textual, and vocal information by microelectronics-based combination of telecommunication and computing. Singh (2000) defines the concept as the different means of obtaining, storage, and transforming information using communication, computer, and micro-electronics. The ALA Glossary of Library and Information Science defines it as the application of computers and other technologies to acquire, organise, store, retrieve, and disseminate information (Patil & Kooganurmath, 1994). The Information Technology Association of America (ITAA), defines the term as the use of electronic computers and computer software to securely convert, store, protect, process, transfer, and retrieve information (Shodhganga, 2014). On its part, the British Department of Industry defines the concept as the acquisition, processing, storage and dissemination of textual, pictorial, numerical, and vocal information by microelectronics based

combination of telecommunication and computing (Rayudh, 1993). According to Shodhganga (2014), one of the main objectives of IT is to provide a more effective means of transmitting or sharing data or information in the form of audio, video, or electric signals or printed or written records by using cables, wires and telecommunication techniques.

Clearly, without a universal definition, what constitutes information technology remains a subject of great debate. However, based on the different definitions posted by the different experts cited above, information technology can be defined as computers and other technologies used in the creation, acquisition, organisation, selection, transformation, processing, storage, retrieval, and distribution of textual, pictorial, numerical, and audio information and electronic signals using cables, wires, computers and telecommunication techniques. Based on this definition, IT includes information communication technologies, Internet-based technologies, telecommunications technologies and non-computing technologies used to create, acquire, organise, select, transform, process, store, retrieve, and distribute information or data in different forms.

Several studies have revealed the use of IT by both teachers and students to acquire and share educational material as well as support learning. In his study on the use of WhatsApp applications to improve language learning, Alsaleem (2014) found that both learners and teachers made use of WhatsApp to support students' language learning. The study by Lin and Yang (2011) highlighted the benefits of using Wiki technology by students to improve their language learning. Motteram (2013) reports that it is not unusual to find teachers and learners using laptops, computers, and tablets in modern language learning classes to access and share information and resources stored locally

or online. As such, information technology has and can be used by teachers and students to support language learning.

According to Costley (2014), information technology is a big part of the world today with many jobs that previously did not apply technology currently requiring its use. Today, many homes have computers and other computing technologies and more and more people learning how to use them. In a modern world, more focus is being directed at raising learner achievement while integrating technology as a tool for teaching and learning with the appreciation of the positive effects of technology on learning (Nilsen, 2001). Information technology enhances student engagement during learning, thereby enhancing their retention of information and provides learning experiences that are meaningful (Costley, 2014). Information technology can also offer learners an opportunity to collaborate with other learners and, therefore, enables them to learn from one another.

According to Cambridge International Examinations (2015), different information technologies can be used for the purpose of teaching and learning. Some of these technologies include interactive white boards, smart phones, tablets, desktop computers, laptops, Internet, and software applications. These technologies can enhance learning by connecting and increasing learning activities. For example, learners in two different schools can link up via the Internet to explore issues of interest to them, working together to understand these issues. Information technologies can also be exciting to students, which increasing their chances of engagement during learning. Furthermore, digital technologies can provide immediate feedback for both the teacher and the learner (Cambridge International Examinations, 2015). The following section

will shift towards discussing mobile and broadband internet penetration in Saudi Arabia.

1.7 Mobile and Broadband Internet Penetration in Saudi Arabia

Statistics from the Ministry of Communications and Information Technology (2017) indicate that mobile broadband household penetration in Saudi Arabia stood at 28.2 million (88.8%) in 2017, having decreased from 33.4 million (105.9%) in 2016 due to the enforcement of a government policy to disconnect unregistered users (Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC, 2017). Fixed broadband penetration was 39% (2.9 million lines) by the end of 2017. Internet users in the country have been rising in the country has rapidly risen over the years and stood at 24.5 million (population penetration of 77%), this trend attributed to the high use of gaming, vide downloading and social networking applications (Ministry of Communications and Information Technology 2017). The ministry further noted that 44.04 million people (138.7% penetration rate) in the country have mobile subscriptions while 1.94 million households have fixed telephone lines (32.5% household teledensity). Statistics from the General Authority for Statistics (GASTAT) (2019) revealed that in 2018, mobile phone use reached 99.16 and that 92.66% of persons in the 12-65 age bracket stated that they used mobiles. Data from GASTAT (2019) further reveals that in 2018, 50.6% of the families owned a computer (desktop or laptop), 26.7% of people of different ages used a computer, and 33.2% of persons in the 12-65% age bracket used a computer. The following section will discuss the TV channels in Saudi Arabia.

1.8 TV Channels in Saudi Arabia

The year 2015 saw Saudi Arabia achieve 100% digital television penetration and as at the end of 2016, roughly 84% of the country's 5.73 million households owning a television received satellite signals, the vast majority of them viewing free-to-air channels (Business Wire, 2016). The country has no less than 90 television channels, including three owned by the Saudi Broadcasting Corporation (SBC), which is wholly funded and operated by the Saudi Arabian government (Oxford Business Group, 2018). Most of these stations are broadcast in Arabic with only a few of them broadcast in English. Some of the channels broadcast in English include Saudi TV 2 (KSA2), Al-Ikhbariya, and Al Arabiya English (Ranker, 2018). So far, there is only limited published information on the number of English channels broadcasting in Saudi Arabia, all of them enjoying reach the country's capital, Riyadh and a very few of them reaching smaller towns and areas far from the capital such as Tabuk and Mecca (Ranker, 2018).

1.9 Use of Information Technology in Saudi Schools

Information technology is increasingly being incorporated in educational institutions across the world to aid teaching and learning. Many developing countries including Saudi Arabia, however, have not been able to enjoy the several benefits of using Information Technology in teaching and learning as much as their developed counterparts (Alshmrany and Wilkinson, 2014). There is limited published data from on the level of use of IT in primary and secondary schools in Saudi Arabia. According to a recent study conducted by Cambridge International (2018), between 16.6% and 14% of students in Saudi Arabia stated that they use smart phones or tablets to aid their learning in class respectively. Close to 50% of the respondents stated that they regularly used a desktop during lessons. The study also revealed that fifty percent of teachers in

Saudi Arabia use interactive boards during their lessons. Statistics reveal that more students (and especially female students) in tertiary educational institutions are taking up technical and science courses including computer science, Engineering, and mathematics, indicating a shift towards a knowledge-based economy and in alignment with Saudi Arabia's Vision 2030 (Al-Ghamdi and Al-Salouli, 2013). According to the Cambridge International survey results, 55% of Saudi students in universities stated that they study computer science courses (Cambridge International, 2018).

1.10 Research Aims/ Questions

The study focused on the technologies that primary teachers apply in teaching English, the impact of using these technologies on teaching and learning English as a foreign language, and the barriers to the adoption of technologies in English language classes in primary schools in Saudi Arabia. More specifically, this work investigated the following research questions:

i. What information technologies do English language teachers in Saudi primary schools use as part of their language teaching strategies, and what do they use these technologies for?
ii. What is the impact of information technology when used as part of language learning strategy on the learning of English language by primary school students in Saudi Arabia?
iii. What are the challenges and barriers to the use of information technology in the teaching and learning of English language in public primary schools in Saudi Arabia?

1.11 Overview of Methods

The study involved case study and was limited to one public primary school in the Saudi Arabia. Case study as a research method was chosen considering the nature of the study and the research questions. Case studies enable a deeper and more thorough understanding of existing trends. Bell (2014) supports this perspective in stating that case studies provide a clearer, detailed and richer description of the original objectives than other research approaches.

Both qualitative and quantitative methods were applied in the study. It is widely agreed by experts that a combination of these methods is most effective in understanding phenomena (Jonson et al., 2004). In this respect, Creswell and Plano (2007, p. 5) note that, "when the quantitative and qualitative methods are used simultaneously with each other, it gives a better chance of solving and learning about the research problems than the result deduced from a single one alone." Using a multi-method approach increases efficiency and enhance the rationality of outcomes in a situation when different methods either confirm or cancel each other and decrease the percentage of unsuitable generalities (Creswell and Plano, 2007). All methods by nature have biases and restrictions and so relying on only a single method to evaluate a situation possibly produces limited or biased results (Jonson et al., 2004). The study employed questionnaires, semi-structured interviews, observation, and assessments in an experimental research format to develop a deeper understanding of how the use of technology in English lessons in Saudi Arabian primary schools impact on English language learning. The following section provides an overview of the study participants.

1.12 Participants/Sample

The target population comprised Saudi Arabian primary school children taking English and their English language teachers. The sample comprised two English language teachers and English language learners from one Primary School. For the purposes or privacy and confidentiality, the main English teacher who was responsible for delivering all English curriculum classes is identified as Teacher R. The other teacher who was from the English Institute and who teaching only offers extra coaching to the students is identified as Teacher N. The English language classes taught by the two teachers were grades four, five, and six. Each class had two streams (stream A and stream B), and each class-stream had a minimum of 30 students. The students in the three grades were aged between 10 and 12, and each lesson lasted 45 minutes. The participants in the study were chosen purposively such as to meet the requirements of the study.

1.13 Originality

Originality in this thesis can be evidenced at many levels. Firstly, this study explores for the first time the experiences of teachers using technology in English classes in primary schools in Saudi Arabia. This enabled the researcher to uncover critical issues that were experienced in the classroom. The researcher explored what technologies the teachers used through the use of a questionnaire. Then the views of the teachers and students were obtained through interviews. Observations were made to establish whether the teachers used technology in the classroom to teach their students and to motivate them to learn English, and to evaluate how this affected the students in terms of enjoyment and engagement. Moreover, the research explored the impact of using technology as part of a language learning strategy. The findings of this study support

the planned switch from a traditional education system in Saudi Arabia to one that relies a lot on technology.

The results of the study may be helpful for language teachers, particularly those teaching English in primary schools, as it may inform the approaches and methods of teaching the English language for better outcomes. The results of the study may also be useful to school heads and administrators with regard to the use of technology in schools. The results of the study may also be useful to policy makers with regard to the use of technology in the teaching of foreign languages such as English. The originality of this study is discussed in more depth in the later chapters of this work.

1.14 Chapters Overview

In order to assist readers in their navigation of this thesis an overview of subsequent chapters follows: The education in Saudi Arabia since 1932 and its progress is reviewed in Chapter 1, along with the reforms brought about by the Saudi government towards improving the national educational standards. This chapter also explores English learning and teaching as a foreign language. The use of technology for young children and the impact of technology for enhancing, motivating, involving, and inspiring the students to learn along with different stages encountered in learning a second language is discussed in Chapter 2. The limitations of learning through the use of technology for young learners are discussed in Chapter 2. Additionally, the comparison between the advantages and drawback of using technology in teaching young children is discussed with the help of in-depth literature reviews.

The model and theoretical approach used in this research is discussed in Chapter 3. The principle research themes correspond closely with the research questions. The design

and development of this project, and different methodologies that were used for collecting and compiling the relevant data are also discussed in chapter 3. In Chapter 4, results are presented while in chapter 5, a discussion of the findings is made. Finally, Chapter 5 presents a conclusion and recommendations based on the study findings.

1.15 Summary

In this chapter, the broad aims of this work have been introduced. Firstly, the researcher offered a general introduction to the study. The context of the Saudi Arabia education system since it was established in 1952 was then discussed. Also, an explanation of English language learning in Saudi Arabia, such as the introduction of English as a foreign language (EFL) into the school curriculum in 1925 was discussed. Some challenges that affect the learning of English in Saudi Arabia were also discussed. The rationale as to why English language learning is important and the importance of using technology in teaching and learning English as foreign language were also highlighted. Also discussed was the importance of technology as a tool in education. In addition, the researcher presented the research aims and questions, provided an overview of the methods used in the study, offered an overview of the participants of the study, and finally made a statement about the originality of the study.

2.0 Literature Review

2.1 Introduction

This chapter presents a literature review of the topic of this study. Some of the key areas that will be covered in this chapter include the use of technology in education, education in Saudi Arabia, teaching of English in Saudi Arabia, technology and English language learning in Saudi Arabia, the relationship between young learners and Second Language Acquisition (SLA) and the limitations of using information technology in teaching and learning.

2.2 The Use of Information Technology in Education

According to numerous studies, educational institutions require the implementation of technology for effective teaching of language courses (Açıkalın, 2009; Costley, 2014). Researchers like Bitner and Bitner (2002) and Courville (2011) acknowledge the importance of technology as a learning tool in the educational institutions and the need for its accessible. Agudo (2014, p.2) states that "the use of information technology in teaching becomes more important in present times because teachers also have to be able to keep up with the technological knowledge of their students". Statements found in literature like Agudo's (2014) highlight the significance of introducing information technology into the classroom to meet the needs of their students.

Bates and Poole (2003) suggest that teachers should meet their students' technological needs as the implementation of technology has proven to be the most innovative method for any instructor as it enhances student participation. Furthermore, the implementation of information technology in classroom lessons not only enhances the teacher's knowledge and experience regarding his/her field, but also aids in providing more

information and promotes the cognitive development of students (Bates and Poole, 2003). The use of information technology in the classroom, especially for English as a Foreign Language (EFL), has many advantages (Alsid and Pathan, 2013). For one, information technology when used in the classroom at the end of the class, perhaps as a game, can help to improve or maintain students' attention while making learning enjoyable. Sometimes students struggle to understand concepts. To overcome this challenge, teachers can use various kinds of information technologies such as a smartboard to help the students understand and enjoy the lesson (Wardlow, 2014).

Engagement plays an essential role when it comes to teaching and learning. In appreciation of this fact, Wardlow (2014) notes that the aim of using information technology in the classroom is to engage students. As discussed in Wardlow's (2014) study, engagement is achieved when the teacher presents the lesson and uses activities involving the use of information technology as a tool in such a way that is interesting and relevant to students. Wardlow (2014) proposes that by including information technology in classrooms, students will be able to use learning resources, information and tools, and as a result will be more confident about understanding the topic. Information technology also increases collaboration among students, makes it easier to engage the student in the learning process, and increases the learning that takes place.

In their study, O'Doud and Aguilar-Roca (2009) found that active learning increases students' critical thinking, engagement, and creates better attitudes to learning. Active learning which has recently received close attention, is usually considered as a radical change for traditional instruction (Prince, 2004). According to Prince (2004), information technology can also be used to enhance learner engagement which promotes active learning. In addition, the teacher's traditional approach can be

substituted with the use of information technological resources. There are limitations that come with using traditional methods. For example, applying the teacher-centred approach takes away the opportunity for students to interact and communicate, further limiting their engagement (Koretz 2008).

There are many information technological resources that can be used in class to support the teacher during a lesson. One of the most popular IT aids identified as being used in the classroom is PowerPoint. PowerPoint helps the teacher to use colourful text together with media photographs and interesting transitions between slides (Alkash and Al-bersi, 2013). PowerPoint can help the teacher make a good presentation when properly used. The teacher can present their lesson in a dynamic way, which they cannot do if they write on a non-interactive board. The teacher can focus more on the class as text is presented on PowerPoint slides or projected on a white board. PowerPoint can, therefore, support teachers by helping them deliver information effectively (Invest in Tech, 2015). However, if the teacher uses PowerPoint incorrectly, such as merely reading the slides word by word, the presentation will be less effective than teaching and writing on the board. This is a common mistake among teachers as it means the teacher is dependent on reading from the PowerPoint slides as opposed to using it as an aid to make their class more interactive. This will not maintain the students' attention and they will feel less engaged which will possibly result in boredom.

Celik (2014) states that an interactive white board can also be used as part of education programmes when it comes to teaching a foreign language to students. According to Beelan (2002), an interactive white board can be used to help attract students' attention. The use of interactive white boards was the subject of one study that was carried out in Istanbul featuring private primary school students (Nese, et al. 2015). The students and

the teachers were from the 1st, 2nd, 3rd and 5th grades in one particular school. The data analysed the students' and teachers' beliefs and evaluation of interactive whiteboards. The results showed that the teachers received training on technology and that they knew how to use the technologies they applied at the beginning of their teaching (Nese, et al. 2015). All the teachers recommended the use of the interactive white board to other teachers. The board was supported by a web-based library which enabled the uploading and downloading of books other resources for teaching and learning.

The teachers stated that the white boards can be used to attract the students' attention. For example, one teacher said that "…it attracts the students' interest. Slides in particular attract their attention". Also, this type of board gives the teachers easy access to the Internet, allowing them to find information related to the topic in order to support teaching methods and techniques (Nese, et al. 2015). However, it could be that the interactive white board may have technical problems such as a mismatch between the white board and the pen used to control the white board. As one teacher suggested "It is much more useful to have at least two pens".

It is proposed that there should be technical support in the school for these kinds of technologies to be sure that no time is wasted if there are problems (Nese et al. 2015). On the other hand, the students thought that the interactive white board improved their attention when they were doing an activity. As one student said "I like the interactive white board because I can touch it and it is attractive". However, some of the students felt that the interactive white board had poor lighting and that it showed advertisements when they were using the Internet resources and that this disturbed their learning (Nese et al. 2015). The study suggested that computer technology increases learners' progress in that it increases their motivation and enhances the teacher's motivation. These results

suggest that when teachers use interactive white boards and PowerPoint correctly in the classroom, the tools reap many benefits to the students' learning. A solution to this would be to find a software that does not involve advertisements as this was the only major limitation associated with these technologies.

The teacher's understanding of information technology is an important factor that needs to be addressed when integrating the use of information technology in the classroom. For instance, a study involving Turkish pre-service EFL teachers was carried out by Merç (2015). The aim of the study was to investigate the use of information technology by student teachers in the classroom as part of their practical teaching experience. The study was conducted at Anadolu University as part of the English Language Teaching programme. The results of the study indicated that the teachers believed that technology can enhance and motivate students' learning. For example, using the Internet in the EFL classroom is beneficial for student learning in the form of meeting native-English speaking friends online and using authentic materials. However, the teachers had limited training on the use of information technology (Merç, 2015). The schools were poor in terms of the information technologies available to the teachers for their EFL classes. The teachers were not satisfied with their teaching in schools that did not have the necessary IT resources. The findings of Merç's (2015) study suggest that there is a mismatch between teacher training programmes and real-world classrooms with regard to the use of technology. In his conclusion, the study stated that there should be a strong link between university and placement schools to ensure the integration of technology before teachers use the tools in their classrooms. If this is not the case, researchers like Merç (2015) waste time researching on approaches to adopt as they may not find related results in regard to what has happens in schools.

According to Abbas (2014), there is growing interest on the impact of computer technology in the classroom among scholars. Abbas (2014) presents some recommendations on the use of computer technology in EFL classes. He recommends the use of computers in teaching and learning. Teachers on their part are increasingly adopting information technologies in teaching. In his study, Abbas (2014) established that using computers changes the way teachers teach and students learn a language by enhancing their engagement and achievement. The study concluded that using computer technology is better than using traditional methods in the classroom, in that the classroom has become a more active place, and students depend on using computer technology to engage in meaningful activities (Abbas, 2014). Hew (2007), however, supports the idea that there are factors that affect integrations of using computer technology in the classroom. One of the most important factors is the lack of resources, because many schools have an insufficient budget when it comes to updating IT resources every year. Hew (2007) found that it is expensive for schools to ensure their computers are regularly updated. Consequently, many schools lack IT resources and associated materials.

According to Tafani (2001), teachers can make their lessons more enjoyable by using the most effective approaches in teaching. Even as they do this, they should understand the strengths and limitations of the technologies they apply in their classes. As Shulman (2006) highlighted, the knowledge of the teachers is the most important factor when integrating computer technology into classrooms. Thus, the knowledge is more important than the computer technology itself because without the knowledge, the technology cannot be used to its full potential.

According to Willingham et al. (2015), students learn in different ways and they apply different learning styles. Generally, there are three main learning styles. These are: auditory, kinesthetic, and visual (Willingham et al., 2015). Also, Tafani (2001) states that there are different learning styles adopted by students. Auditory learners are those students who learn when the words are repeated frequently. Visual learners are those who learn through focus and look at the information closely. Kinaesthetic learners are those who write the words many times continuously to remember them. Alimemaj (2010) points out that it is useful to identify various styles of language learning. For example, the application, YouTube, is a useful learning aid for teaching language as it can help enhance the students' lessons because they can learn through watching videos, as opposed to solely reading from textbooks. Also, by using YouTube, students can learn English in real-life contexts with the correct pronunciations instead of only academic English (Ghasemi, 2011; Derewianka, 2008).

In a recent study, Huda suggested that YouTube can be an effective and positive tool for teaching and learning of EFL (Huda, 2015). This is because classrooms should be the most active place for meeting students' needs by using technology. Huda (2015) also proposed that YouTube has not been exploited to its full potential in terms of its educational benefits it has to offer. In her research, Huda (2015) attempted to find the impact of using YouTube to expand EFL students' content learning as part of a course. The course was for "Elementary School Teachers of English", one of five courses taught in the school that was studied. The aim was to develop the students' learning and find more effective that teachers can teach at elementary level. The skills involved would include using particular frames to gain an insight into the development of observation and recording methods, and of teaching and learning in the classroom. Huda's results (2015) showed that the use of YouTube in terms of EFL learners was positive with

regard to the theoretical content of the course. The use of YouTube created an enjoyable and entertaining atmosphere in the class that motivated the students to learn. This result can show that the use of YouTube enhanced the progress and development of the students in terms of learning. These findings led Huda to recommend YouTube as a good tool for developing EFL students, suggesting it is an important resource for teaching in the classroom. However, Alimemaj (2010) argued that YouTube presents new challenges for learners because they can watch a vast number of clips from a wide range of contexts. As such, students would hear different pronunciations and possibly experience different sound quality. Alimemaj (2010) proposed that these factors make it difficult for the students to understand the language, in comparison to traditional learning methods. These findings show that teachers can greatly benefit from the use of YouTube in the EFL classroom. In this regard, students can watch YouTube videos outside of the classroom and can find videos suitable for their level of proficiency, which they can use to remedy their weaknesses (Alimemaj, 2010). If the teachers have knowledge of information technology, they will build their own materials through the use of IT by developing resources for their students' learning and fun.

2.3 Information Technologies Used in Language Learning in Primary schools

Information technology is increasingly being recognized as an important learning tool – one that helps young children in developing their social, learning, and cognitive skills. Across the world, many primary schools have incorporated information technology as a tool for learning. Some of the information technologies applied in teaching language in primary schools according to Eady and Lockyer (2013) include overhead projectors, videocassette players, and computers. According to Solano et al. (2018) some of the educational (information) technologies commonly applied by primary school English

teachers to develop learners' language skills (writing, reading, speaking, and listening) include Padlet, Prezi, podcasts, white boards, and YouTube videos. These technologies are commonly used in countries such as Ecuador not only because they are free but also because they provide a lot of resources for learners. Adding his voice to the debate, Nomass (2013) notes that electronic dictionaries, CD players, learning video clips, presentation software, Computer-Assisted Language Learning programs, and language learning apps and websites such as Duolingo are noteworthy IT tools applied in helping primary school students improve their language learning skills.

Researchers such as Couse and Chen (2010) and Lee and Whei-Jane (2013) emphasize that instructors should encourage their students to engage in appropriate activities by using computer technologies so as to be successful in language learning. Harmer further notes that using computer-based activities can help improve cooperative learning in students. According to Ahmadi (2018), the use of IT has changed the methods applied in teaching English language. With the development of technology, Ahmadi (2018) suggests that teaching in traditional classrooms using blackboard or whiteboards should change. The use of multimedia in film, Internet, and print texts, according to Arifah (2014), can help enhance learners' linguistic knowledge and gives learners the opportunity to gather information from different materials which can help them analyse and interpret both language and contexts.

While the use of Internet helps to increase primary school language learners' motivation, film can help them view the topic they are learning about with more enthusiasm (Arifah, 2014). PowerPoint on the other hand can be used to present the topic of study in a creative and innovative way, potentially encouraging discussion and the exchange of thoughts and ideas (Ghavifekr and Rosdy, 2015). According to the

results of a study by Alsaleem (2014), using WhatsApp applications in English dialogue journals helped improve young learners' word choice, vocabulary, speaking skills, and writing skills. A similar study conducted by Lin and Yang (2011) revealed that the use of Wiki technology helped young learners learn spelling, vocabulary, and sentence structure, and allowed them receive immediate feedback regarding their work.

So far in this study, the use of technology has been discussed, however it is important to provide the background context of this research. The discussions will now turn to the educational context of Saudi Arabia. A discussion of teaching English in a Saudi Arabia EFL setting and the use of technology in education will then follow.

2.4 Education in Saudi Arabia

Since 1932, the Saudi government has taken significant steps to make education a top priority. Prior to this, the country's education system was limited to *kuttab* (AlMarwani, 2013). These are classes in which students are taught the Quran in mosques. This kind of education included learning and memorizing the Quran, along with arithmetic, foreign languages, and reading Arabic. Learning a foreign language was not considered important. The basic purpose of education was to acquainted young people with the subjects of the Holy Quran. For these reasons, illiteracy prevailed for a long time in the Arabian Peninsula (ALMutairy, 2008).

The Ministry of Finance (2014) stated that "Economically, Saudi Arabia is the richest country in the Middle East, as illustrated by its 2014 budget of US $301.6 billion". The economy depends greatly on oil as the main source of wealth, representing more than 80% of the country's income (The Ministry of Finance, 2014). There was enormous change in the country after the discovery of oil, which made education more important

than before. Then, in the early 1930s, steps were taken to provide formal primary education and later, in 1945, King Abdul Aziz started promoting the establishment of primary schools in Saudi Arabia (Ministry of Education, 2011). Importantly, this initiative helped the Saudi Arabia to establish 226 schools with 29,887 students in 1951. According to UNESCO (2011), in 2007, the total gross enrolment was 98.1 percent, with the enrolment for boys being 99.9 percent against 96.3 percent for girls. Thus, the majority of children at this time were enrolled in education (UNESCO, 2011). Three years later, Saudi Arabia approved the establishment of the Ministry of Education (Ministry of Education, 2011). The first university was established in 1957 in Riyadh. This was called the King Saud University. At present, there are 69 universities in Saudi Arabia and 24,000 schools, which represents an increasing number of formal educational institutions (Ministry of Education, 2011).

According to UNESCO (2011) primary education in Saudi Arabia takes six years to complete, after which a student proceeds to first grade of secondary school. Co-education is not a common practice because Saudi Arabia is an Islamic country which does not accept mixed genders in education. Classes commence in the morning. It is necessary to pass grade 6 and get the Elementary Education Certificate in order to access intermediate level. Then there is higher education that comprises numerous universities and colleges in different parts of in the Saudi Arabia. Students are motivated to carry on their education at university level by getting financial support and free accommodation on campus (ALMutairy, 2008). The school year is made up of two semesters, each of which lasts for 18 weeks, that is, about 138 days a year for all stages in primary, secondary and high schools (Brulles and Brown, 2018).

Standardisation of the curriculum is a major feature of the education system in Saudi Arabia (Ellis, 2008). The curriculum taught in government and private schools is exactly the same throughout the country. This enhances equality. The intentions of the Saudi educational strategy are to make sure that education is well-organised and fulfils the religious, economic and social requirements of the country, including wiping out illiteracy amongst Saudi adults (Brulles and Brown, 2018). The strategy focuses on imparting these values on the students so as to empower them to play an efficient part in all social and cultural happenings (ALMutairy, 2008). However, when the curriculum is exactly the same throughout the country, the teachers may not be creative when it comes to designing their own lesson plans in appreciation of their students' weaknesses or strengths (Al-Seghayer, 2015). Learning may be more effective when teachers are given an outline of what students are expected to achieve by the end of their school year, as opposed to basing lesson plans solely on the books provided to schools by the Ministry of Education (Brulles and Brown, 2018).

The plan of the Ministry of Education at the end of year 1435H [2014] included the graduation of male and female students with Islamic values and the appropriate knowledge and practice (Ministry of Education: The Executive Summary of the Ministry of Education Ten-Year Plan, 2004-2014). It was proposed that the student's major characteristics would be that they had developed applied knowledge, abilities and attitudes. Moreover, it was intended that these outcomes would help students to deal with various situations confidently and positively; they would possess the ability to implement advanced technologies in a competent and flexible manner, and would allow them to cope with international competition in scientific and practical areas. The students' abilities would be developed, bearing in mind all kinds of circumstances to extend the amount of positivity in the school environment in order to inspire learning

and social education (Ministry of Education: The Executive Summary of the Ministry of Education Ten-Year Plan, 2004-2014, p. 12).

2.5 Teaching and Learning of English in Saudi Arabia

English is not frequently used in everyday interaction in Saudi Arabia. Rather, it is taught in different learning institutions (from primary through to university) as a foreign language (ALMutairy, 2008). As indicated by Al-Seghayer (2015), most of the countries in the Gulf have adopted English as the premier foreign language, because many jobs require applicants to have some knowledge of the language. Owing to the constant development and process of modernisation that has occurred in the Saudi Arabia in the past and at present, the introduction of English is more perceptible and evident in that the teaching of English begins from the early stages of primary schools. As stated by UNESCO (2011), Saudi Arabia has become a part of the mainstream economic, educational, and political areas of the world. This foregoing, it is of significant importance that key individuals have command over an international language such as English.

Solely responsible for the development and examination of the national English curriculum in Saudi Arabia is the Department of Curriculum Design which falls under the Ministry of Education (Alsudais, 2017). Upon publishing English syllabi, the guidelines set out by the Department are followed ensuring that the customs, values, traditions, and beliefs of the Saudi Arabian society are preserved. As noted by Rahman (2011), across the country, English academic books and grade-level books are the same or conform to the required standards. English language teachers normally use three materials; a teaching instruction manual (the teacher's handbook), a workbook for students, and a course book. As noted by Ellis (2008), students are provided with both

the course books and a description of the objectives they are supposed to achieve free of charge, and teachers execute and teach them during the time allocated. The curriculum typically revolves around integrating all language competencies (speaking, listening, writing, and reading) with efficient vocabulary and grammar practices (Alsudais, 2017). Even so, most of the academic institutions in the country do not have English language facilities such as tape recorders, films, and language labs. Where these facilities are available, they are mostly in working condition are well maintained by trained teachers.

Alrashidi (2015) stated that in the earlier stages of learning, students in government schools begin to learn English at the intermediate level and it is taught for 6 years as a compulsory subject. Four English classes per week are held for the students with the duration of every class being forty-five minutes in the intermediate and secondary levels. A new declaration on teaching English from grade six was applied in 2010. In a recent development, a new rule on teaching English has been implemented, and the teaching of English now takes place from grade four (Alrashidi, 2015). According to the Ministry of Education's (MoE) policy, tutors are expected to execute the material units in the prescribed course books exactly as agreed even when going this direction may have negative impacts on learners (Alsudais, 2017). This basically implies that in standard public schools in Saudi Arabia, textbooks are the only teaching resource for teachers (Alrashidi and Phan, 2015). In addition, teachers have to implement the principles that they are introduced to so as to achieve the pre-determined objectives of the curriculum. The Ministry of Education has also endorsed only a few EFL course books and different methodologies for use by teachers in teaching English as a foreign language (Alrashidi and Phan, 2015). The Ministry also provides a small set of books English lessons going by the name English for Saudi Arabia (EFSA). Although the

MOE insists that the teacher's manual book provides best guidance course for teachers to improve their teaching skills, this notion has been criticized by several quarters (Alsudais, 2017). To check the progress of educational agendas, inspectors are sent by the Ministry to check whether or not the syllabus and objectives of the English course are achieved and to evaluate the performance of the teachers (Almutairi, 2008).

In private schools, English is taught from the first grade as an extra-curricular activity (Alrashidi and Phan, 2015). To make it easier for the students, bilingual strategies are employed in which textbooks contain a variety of topics and activities in bilingual languages. In the private schools, teachers are mostly non-Saudis; either native English speakers or persons from other countries. Students graduating from private schools tend to be more capable compared to those from government schools as measured by written assessments (Almutairi, 2008).

As most students are not exposed to English before their enrolment in the fourth grade, they often face problems learning the language as they are introduced to it and proceed with their education (Alrashidi and Phan, 2015). The situation is worsened by the fact that most learners are not exposed to the language outside the classroom environment. In addition, students are required to cover roughly 115 pages of content from their course textbook for each term (Al-Zahrani, 2011). It is not easy to cover such a large syllabus in the time available. The wide syllabus causes problems for the teachers as they are obliged to finish this book by the end of the semester and prepare an exam for the children to assess their performance. Such an extensive syllabus demands more time for explanation and illustration and for learning. Al-Zahrani (2011) stated that one of the English teachers in Saudi Arabia noted that the biggest barrier facing students when it comes to learning English is the design of the English curriculum. In this regard, the

English textbooks do not include clear goals and aims for the students, and the context of the books does not match with the goals. Also, the text books are not well designed as the chapters do not offer follow-up instructions or exercises for the students. The books are unattractive as they lack pictures and illustrations that are often appreciated by young learners (Al-Zahrani 2011). At the same time, the methods of assessing learners on the subject lead them to focus on their scores rather than on language skills. In addition, there is no opportunity for students to practice what they have learnt in the lesson. Also, the curriculum does not link the students' interests with their needs. For example, the English books may not have any topics that relate to the students' real life and their future (Al-Zahrani, 2011).

A compact disk (CD) is often provided with every book to help the children learn how to pronounce different words correctly. The CD is needed in case the teacher is not a native English speaker and does not have good command of the English language. The major question that arises here is whether this technology-based learning is productive when students return to their homes. It could be suggested that teachers might prefer to concentrate on the students' potential to learn English and to develop strategies to deal with their weaknesses, rather than covering such a broad curriculum in terms of quality. Also, the pressure to cover a wide syllabus in a limited period forces the teacher to adopt and implement teaching techniques that typically include only talking and explaining the lesson.

A close analysis of the EFL syllabus as applies to Saudi Arabia reveals a number of limitations which hamper the effective learning and acquisition of English as a foreign language. Some of these limitations include shortage of learning material resources, limited time allocated for teaching, the insufficiency of teaching methods, and a lack of

communication to enhance knowledge (Liton, 2012). With regard to limited time for teaching, English language lessons in every class in primary and secondary school typically last 45 minutes and occur at least four times every week (Liton, 2012). In sixth grade, however, students attend only two language classes per week, each lasting 90 minutes (AlHazmi, 2003). As noted by Liton (2012) given the insufficient amount of time learners are exposed to English language instruction, they do not have enough time to practice what they have learnt in school. Furthermore, the present situation is such that students have limited opportunities to experience informal communication, which contributes to poor grades for the overall insight-learning activities (AlHazmi, 2003). In appreciation of the limited time (during English language lessons only) learners are exposed to EFL, school principals often find it necessary to allocate more time for English classes in the curriculum (AlHazmi, 2003). It is worth considering that Saudi students may be exposed to English communication through different channels such as magazines, television, social media platforms, and magazines.

With primary and secondary classes mostly being outsized, average class attendance is normally 40 to 50 students (Liton, 2012). Faced with such outsized classes and in the wake of time limitations, teachers often find it difficult to cover all learning materials as well as to efficiently teach all English language skills. The insufficient time teachers have does not allow them to complete teaching materials and linked class activities in a single lesson. According to Liton (2012), this effectively leads to low quality in English teaching and learning experiences. In this regard, Moskovsky and Alrabai (2009) suggest that the quality of teaching and learning in Saudi schools can be increased by reducing English classes sizes to 20 to 25 students or increasing either the number of class sessions available or the amount of teaching.

With teachers being encouraged to use communicative methods and to stimulate students to communicate in English, the use of English language for communication has remarkably grown over the years (Alsudais, 2017). According to Liton (2012) however, the lack of contemporary techniques and, therefore, widespread use of traditional approaches which mainly emphasize on teaching grammar, continues to be a problem. With the Grammar Translation Approach (GTM) and the Audio-Lingual Approach (ALM) subject to so much criticism, English as a Foreign Language teachers in the country are required to use both traditional and modern techniques such as collaborative and communicative techniques (Alsudais, 2017).

Most of the English teachers in public primary and secondary schools are native Arabic speakers (locals), rather that native English language speakers (Alsudais, 2017). Although the minimum requirement for tutors to teach English in Saudi schools (elementary, middle, and secondary) is a Bachelor's degree in English, there is no minimum requirement with regard to experience. Most of the English language teachers graduated from the school of education or art at a local universities or colleges (Moskovsky and Alrabai 2009). As noted by Ur Rahman and Alhaisoni (2013), such universities offer a four-year course that leads to a bachelor's degree in teaching English as a second language (ESL). At the same time, in higher learning institutions, English is mostly used as the language for teaching in several technical courses including engineering, medicine, and business given its vitality within these disciplines (Alsudais, 2017; Al-Seghayer, 2015). In these institutions, Arabic is also utilised in teaching non-scientific subjects such as courses that fall within the domain of humanities. Even in courses where English is not used as the language for teaching, students are required to complete English as a Foreign Language (EFL) assignments as an additional compulsory unit (Al-Seghayer, 2015). As an example, a student taking a course leading

to a Bachelor's degree in history is required to pass as part of their curriculum plan, an English program (Rahman, 2011). It is expected that the additional English program will improve the student's proficiency in English and enable them consider English as an instrument of knowledge together with Arabic (Rahman, 2011). Given the lack of experienced teachers with the necessary qualifications (M.A and PhD), most English teachers in tertiary institutions are expatriates, mostly from English speaking countries such as the United States, Ireland, the United Kingdom, Australia, and New Zealand, and from neighbouring Middle East and North Africa (MENA) countries such as Lebanon, Jordan, and Egypt (Alsudais, 2017).

According to Alrashidi and Phan (2015), language teaching should begin at an early stage or age, so children will be more flexible and adaptable to the new language. This would be beneficial for both students and the teacher. Similarly, if English is taught earlier at the age of 6, rather than 10 (grade four age), this would allow them to learn rapidly and effortlessly. The aforementioned suggestions are supported by the critical period hypothesis presented by Lenneberg (1967) which asserts that children are more easily able to learn a new language at a young age. This theory will be discussed in later in this chapter under the topic of second language acquisition.

In Saudi Arabia, the use of the first language (Arabic) in communicating with learners and in teaching is common (Almutairi, 2008). It is proposed that the first language should be limited to creating connection with students as this helps build empathy between teachers and students (Macaro, 2001). Also, it has been suggested that second language should be used totally and exclusively in the EFL (English as foreign language classrooms) (Macaro, 2001). According to Macaro (2009) insists that learners of second language can learn by using second language only, and that second language should be

used maximally in the classrooms. However, first language should be permitted for non-pedagogical purposes. According to Macaro's (2001), Arabic language should be used only for enhancing second language acquisition, to facilitate the acquisition of second language; as well as to infer meaning intended in English language. Findings of other studies focusing on impact of use of Arabic in EFL have supported the proposition that it should be discouraged as much as possible (Mahmoud, 2012; Cook, 2010).

Mahmoud (2012) investigated the impact of Arabic use in English classrooms on students' achievement among students studying English and linguistic in King Abullaziz University. The mean scores of the experimental group and the control group showed that limiting the use of Arabic in EFL classrooms positively impacted students' achievement in English. It was noted that the use of Arabic in English classrooms resulted in low achievement among students (Mahmoud, 2012). It was proposed that Arabic use should be avoided in English classrooms and that teachers and instructors should learn and adopt strategies that help limit the use of Arabic in EFL classrooms. For example, the direct method, which discourages first language use in second language classrooms. Direct method emphasised the teaching of second language without using first language in second classroom. This method emphasises the total abandonment of first language in second language classrooms and discourages translation between first language and second language (Cook, 2010).

2.6 Qualification of English Teachers in Saudi Arabia

From the early 1980s English language teachers in Saudi Arabia have undergone special training in English departments of different teacher training colleges, colleges of arts, or universities (Mishan, 2005). In the universities, the degree programs leading to the award of a Bachelor of Arts degree in English takes four years to complete (Al

Hajailan, 2003). During this period, potential teachers receive training in different fields of specialization such as English literature, linguistics, education, and teaching methodologies. In some universities potential teachers initially have to register and undergo a one or two-semester programme that involves intensive training on their areas of study (Mishan, 2005). On successfully completing the chosen programme, the student registers for and undertakes a definite academic conventional English programme where they take a set of courses in teaching methodologies, literature, syntax, morphology, phonology, linguistics, and additional academic courses (Crystal, 2003). Generally, aspiring English language teachers are required to undertake courses divided into three main categories: a basic qualification to complete college or university degree; non-compulsory courses; and courses recommended by the Department of English in the college or university (Crystal, 2003). Such courses include courses in applied linguistics, skills building prospectus, English 32 literature syllabus, and general linguistics curriculum.

As noted by Mishan (2005), the number of programmes and modules in each of the above categories that potential English language teachers must take before completing their degree programs, however, varies from one university to another. As part of their modules, students also have to undertake preliminary and initial teaching technique courses, and a teaching practice course which often comes in the final year of the English academic curriculum (Mishan, 2005). It is worth noting that the majority of the tutors who join TEFL programmes are not competent in English, a sizeable proportion of the population graduating from programmes of English of colleges of arts and translation that prepare them to become professionals in English literature (Al Hajailan, 2003). As noted by Al Hajailan (2003) this particular category of students may not be trained on important areas such as English teaching methodologies and neither have

they undertaken a short practical teaching course in public institutions, which accounts for their lack of aptitude in related areas.

2.7 Information Technology and English Language Learning in Saudi Arabia

In Saudi schools, emphasis is placed on reading and writing when it comes to teaching English (Byrom and Bingham, 2001). Much of the work comprises filling in blank spaces, rearranging words to create sentences, handwriting, and dictation. Writing is given pre-eminence over speaking and listening. A whiteboard is the fundamental, and frequently the sole, classroom tool available to the teacher, regardless of the fact that the Ministry of Education suggests the employment of blackboards, pictures, flashcards, tape recorders, and educational films in teaching and learning (Almutairi 2008). Teachers often use different methods to teach English Language to the students so they get a better grip on the subject (Byrom and Bingham, 2001). As indicated by Almutairi (2008), a number of schools lack information technology tools and resources, and in those schools where these tools and resources are available, they tend not to be functional. This is due to poor maintenance, lack of time, and lack of knowledge on the use of these technologies by teachers (Byrom and Bingham, 2001).

The Ministry of Education does not strictly require prior experience and higher education for English teachers (AlHajailan, 2003). Moreover, no additional professional development training is provided by the ministry for English language teachers (Almutairi, 2008). This may mean that those teaching English may not be qualified teachers or experienced to teach English to young children. In its Ten Year Plan (2004-2014), the Saudi Ministry of Education states its effort to advance the use of Information and Communication Technology (ICT) and to encourage ICT training for teachers (Ministry of Education, 2005).

The Ten Year Plan designed by the Ministry of Education makes it clear that they are working hard to achieve progress in developing ICT infrastructure so as to apply it in the classroom (Ministry of Education, 2005). The essential aim of this initiative is to incorporate ICT in education and learning in all schools. In 1996, the Computer and Information Centre (CIC) was established at the Ministry of Education and it is considered responsible for schools. The Centre has been successful in establishing more than 3000 IT labs in secondary schools, close to 2,300 IT labs for intermediate and elementary schools and more than 2,000 Learning Resources Centres across the nation. Many new universities have been established such as the Prince Mohammad Bin Fahd University (PMU) in Al-Khobar (Ministry of Education, 2005) *The Executive Summary of The Ministry of Education Ten - Year Plan 1425 - 1435 H (2004 - 2014).* Riyadh: Ministry of Education). In addition, a number of community colleges are also on the list of newly established institutes. The aforementioned university has a separate department that offers Bachelor of Science degree programmes in Information Technology, Computer Science, and Computer Engineering.

The Ten Year Plan states that at the Ministry of Education, the Computer and Information Centre (CIC) should collaborate with IT companies to train more than 30,000 teachers, provide IT consultancy to educational institutions, and establish and support E-learning pilot project (Ministry of Education, 2005). For males, Riyadh and the Central Region have about 73 training and test centres and, for females, there are 23 centres are in operation (Ministry of Education, 2005). This development is significant as it provides greater opportunity for the use of technologies. (Ministry of Education: The Executive Summary of the Ministry of Education Ten-Year Plan, 2004-2014, p. 12). These and other developments show that the mutual efforts of the Ministry of Higher Education (MOHE) and other educational authorities in Saudi Arabia have

succeeded in establishing centres that offer ICT education in the last few years. It is important to have teachers with technological knowledge and for them to utilise that knowledge in their schools and in their teaching.

Although there is a push for greater ICT use, this is still not applied when teaching English. According to Almutairi (2008), as far as teaching English in Saudi classrooms is concerned, the students only sit and listen to what the teachers say, while the teacher spends a lot of time explaining basic things to the students. Traditional teaching methods do not support the students' fluency as there is limited engagement with these methods (Koretz, 2008). The development of the students' personal and emotional skills are also negatively impacted from the lack of engagement. This calls for the introduction of better methods, such as the use of ICT.

In the past, huge student populations was a main challenge in the country as the country did not have a sufficient number of schools to accommodate all learners (Ministry of Education, 2011). To tackle this problem, the Ministry rented houses and buildings which were not designed as schools. Also, Almutairi (2008) established that schools did not have laboratories, workshops, libraries, theatres and play areas which limited teachers' opportunities to apply different teaching strategies. At all stages of learning, from primary to university level, students are seated in rows in front of the teacher and a whiteboard (Almutairi, 2008). There are thus few opportunities to encourage the students to interact in order to develop speaking skills. Learning is teacher-centred and students are mostly passive participants in class. Teacher Time Talk (TTT) is a strategy that involves only the teacher talking for the most part of the lesson, if not all. In addition, whilst this can be successful in some instances, it limits broader learning opportunities as there is limited Student Talk Time (STT) (Krashen, 2003).

In his book on the study of language, Yule (2010) proposes that students can learn English Language better if they are encouraged to communicate with each other. Modern approaches focus more upon the learner, adopting communicative approaches, and reducing reliance on textbooks (Koretz, 2008). If teachers allow students time for discussion with one another, the teacher will ultimately be more aware of their weaknesses and help them develop their skills. As Almutairi (2008) stated, in Saudi Arabian English classes students do not often have much chance to enjoy group learning and discussion. This has resulted in weak evaluation students' abilities and mistakes. This in turn makes it difficult for the teacher to decide what needs to be done to improve their English language proficiency.

A final written exam decides whether to promote a student to the next class or not. In the case of English examination, reading comprehension and writing tests are taken in the schools. These are taken to check the performance of a student at the end of the term. This causes problems for both teachers and students because the teachers have to make sure that students are prepared for the final exams. Teachers and learners are therefore likely to concentrate on areas that are covered in the final examinations rather than broadening their learning (Almutairi, 2008). Taken as a whole, this means that it will be stressful for the teachers to teach in such a way as to cover the syllabus which, as already indicated, is highly structured and content heavy. Teachers may be not be able to remedy the weaknesses of their students. The learners may also find it stressful in that they have to pass the exam instead of enjoying the syllabus and developing their knowledge. This high stakes testing has a fundamental impact on the children's learning. High stakes testing, as analysed in Koretz (2008) study, is the approach taken to test achievement. Koretz notes that "test scores usually do not provide a direct and complete measure of educational achievement". Koretz (2008 p. 158) also states that

tests may be biased, which may provide incorrect estimates of students' performance. Just like doctors have the complex knowledge of biomedical science before they consult their patients, teachers should have an understanding of 'validity, reliability, bias, scaling, and standard setting' to fully understand the information extracted from tests (Koretz, 2008).

With the ever-increasing technological innovations, Abukhattala (2016) recommends that educational institutions should invest in technology so as to equip both their teachers and students with the necessary resources to embrace technology in classrooms. This way, students will be able to learn and understand the English language more clearly as they will have the opportunity to study even when not in class. However, Abukhattala (2016) observed that many researchers suggest that the successful implementation of educational technologies depends mainly on the attitudes of teachers, who eventually decide whether or not to integrate technologies, and how they are utilised in the teaching process. Abukhattala (2016) further note that the availability of the technological resources also has an impact on their implementation as without these resources, implementation cannot be possible.

2.8 Young Learners and Second Language Acquisition (SLA)

Using technology in language learning is increasingly becoming an area of interest and attention among scholars, educationalists and policy makers (Chapelle 2003). Using technology in the classroom has many benefits, but also negative impacts if it is not applied properly by teachers. This section aims to explore the relationship between young learners and Second Language Acquisition (SLA). For example, does the starting age of a learner affect their potential to attain an advanced level in the English language? If so, can technology be used to enhance their language? What are the main

barriers between teacher-student learning when it comes to applying technology in the classroom? Can students use technology to motivate their language learning outside classroom setting? What are the stages of language learning and for each stage, what strategies can be used?

2.8.1 Language learning technology for young learners

In her article on SLA, Chapelle (2003), developed research theoretical questions to investigate the relationship between technology and SLA. According to Chapelle (2003), students' learning of language can be enhanced through the use of technology as a teaching and learning tool. According to Saba (2009), technology aids education in several ways, such as in the form of independent learning, better approach towards learning and greater student learning achievement. This statement agrees with the results of Morgan (2002) which showed that students using technology in classroom lessons had more chances of relating it beyond the academic context, as compared to the students only focusing on textbook contexts. In this respect, technology is something that should be added to supplement the academic content and the procedural knowledge of applied linguistics.

Salaberry (2001) argues that it is unclear whether "new technologies" such as computers have achieved equal degrees of pedagogical benefit in the realm of second language teaching. Therefore, one could argue that although teachers perceive these forms of technology as useful, there is little evidence to show the actual impact on learning. According to some researchers, however, technologies aid in achieving innovative learning and gain a better educational experience (Chartrand, 2007; Pellowe et al. 2014). Also, Winterbottom (2015) states that an effective lesson includes the active participation of teacher, availability of learning environments, chances of gaining

more knowledge, interactive sessions, assignments and methods that trigger better learning process. Essentially, teachers need to learn and master how they can use technology such as computers, as they may help them to teach and assess learners during English lessons. Hughes (1998) noted that the more the examples and technological models used for in-service learning, the higher the chances for teachers to find the appropriate method for his/her course targets. This results in professional development for the teacher and the finding of the best learning techniques. Using technology in teaching should be interactive, and currently, the process has been enhanced with the use of technologies applied in schools (Lawless and Pellegrino, 2007).

As Kamhi-Stein (2000) observed, it is important for future ESL teachers to realise that to be competent in teaching using technology, they need to learn how to use technology while they are still students. Kamhi-Stein's study investigated student participation through different methods. These involved face-to-face discussions and internet based bulletin boards (BB). The study found that students interacted more on the Web-based BB, showing a keen interest to collaborate and support one another. This approach also benefits students by having a constant access to information and enhancing their second language skills even when they are outside the classroom (Lawless and Pellegrino, 2007).

The study also found teachers were less likely to participate in Web-based BB, meaning the interactions were student-student. When technology is limited as a student pursues their course, it contributes to insufficient preparation of teachers, and they may later struggle to teach using technology (Kamhi-Stein, 2000). On the contrary, it is not mandatory for teachers to use technology before they master how it works. It should be

noted that technological advancements happen rapidly. This means that the learning process is continuous and teachers should be willing to learn how to use new technologies in order to maximise the potential benefits that technology has to offer, specifically in aiding learners to master a new language.

As Chapelle (2003) opines, most English teachers assert that their students can master the English language if they constantly express themselves using the language, especially while they are outside the classroom. In this sense, ESL students need to practice speaking English outside their classrooms and some technology may provide this opportunity. For instance, as Chapelle (2003) explains, she has always been curious to understand how international students, studying at several universities in the United States, prefer to spend their time out of their classes. The experience that these international students have outside their classes is critical, especially if they are exposed to colloquial speech outside of the classroom, rather than standard English when in the classroom. If students are exposed to colloquial speech outside of the classroom, language learning can still occur through social interaction and technology. Blake (2000) found that Computer-Mediated Communication (CMC) oral communication outside of the classroom, but over the Internet, can support oral comprehension.

Chapelle (2003) notes that in some cases language learners do not actively engage or embed themselves with the language in a way that could be more beneficial. To enhance their language learning, continuing to read and write in the language outside of the classroom such as online, could positively impact their learning. Although most Internet sites are written in English, other languages have also been incorporated. Chapelle (2003) made a similar observation in a previous study and stated that most of the international students in the computer laboratory were reading English text. The

same could be said about several other universities in the United States. This observation contributed to changes witnessed in teaching English at the university. In fact, the change has been determined by three reasons.

First, Chapelle (2003) noted that students wanted to be in the computer laboratory because their peers also spent time in the lab. In this respect, the students were not keen to practise speaking English, as they concentrated on activities that they would have loved to do once they were out of their classrooms. Second, these students interacted with computers, and it was ideal for them to learn English as they operated these systems. The English used by these students was in line with the technology that they used. In this sense, the technology used can play an important role in supporting learners to master a new language. Therefore, teachers who are using technology in classrooms end up improving the language used by their students. In interacting with their peers and working in groups, these students have an opportunity to enhance their language usage and enjoy the learning process. Based on the observations made by Chapelle (2003), learners who enjoy so much exposure to the target language are well placed to comprehend the new language, especially when they practice the language as they converse.

Colin (2001) discusses a survey conducted in England in which sixty schools participated. The selection process of eligible schools was based on their rating on the ICT learning opportunities they presented to learners. In the analysis of the findings, where approximately 2,100 pupils were participants, the primary focus was on the impact of motivation and attainment. From the results, the findings linked to attainment were interesting, specifically in the evaluation of foreign language teaching and learning (Colin, 2001). It was established that attainment gains in the GCSE exam

performance in language correlated with the ICT infrastructure used in schools. For schools that used advanced technology and where learning took place using technological gadgets in teaching a foreign language, the language performance was remarkable. The research outlined that the differences between high and low use of ICT could amount to a grade at GCSE level. However, calculations that were similar in respect to other subjects had lower gains.

Table 1: Mean relative gain in grade equivalents at Key Stage for high ICT users versus low ICT users by subject by (Colin et all, 2001)

English	Maths	Science	Geog	History	MFL	DandT
High ICT	5.19	5.19	5.42	5.30	5.21	5.07
Low ICT	5.06	4.63	5.05	5.27	4.39	4.66
Difference	0.13	0.56	0.37	0.03	0.82	0.41

In the table, the numbers represent grades in the following way: 8 = Grade A*, 7 = Grade A, 6 = Grade B, 5 = Grade C, and 4 = Grade D, and so on. The results were as follows; Maths 0.13, English 0.02, History 0.03, Design and Technology 0.41, Science 0.56, and Geography 0.37. According to Evans (2009), differences in the effects of subjects such as Maths, English, and History, on one hand, and differences noted in Design and Technology, Modern Foreign Language, and Science, on the other hand, were attributed to the increased use of an IT in teaching the subjects categorised in the second group. In the first group of subjects, IT was considered to be skill-oriented and many people believed that it played an insignificant role in furthering a pupil's knowledge, understanding and this orientation thus explains the variance in the understanding by subject (Evans, 2009). A study which examined the impact of IT on modern languages in English schools concluded that the application of IT in teaching

and helped improved pupils performances (Evans, 2009). In fact, one in every twelve pupils agreed that IT was vital in improving their performance in a modern foreign language. Miller (2011) also approved of the idea that technologies like computers were essential in increasing the participation of students within class lessons.

According to Evans (2009), empirical evidence on the influence of applying technology in teaching language has continued to increase over the years. In fact, it has been inferred that students enjoy learning using technological gadgets. In a small a scale study, which involved three hundred students from secondary schools in London, all students involved acknowledged that the incorporation of ICT in learning made it more enjoyable (Evans, 2009). There was also evidence that distant learning exposed the students more with the target language, thus, positively impacting students' motivation and attainment. The study revealed that 64 percent of students enjoyed visits to other countries, 59 percent enjoyed learning new words, and 63 percent enjoyed when teachers make their lessons interesting and fun (Evans, 2009).

In one report, Ofsted (2008) asserted that a positive impact on learning was evidenced as teachers moved to make lessons interactive using whiteboards. According to Ofsted (2008), the whiteboards were useful in whole-class presentation of languages, and they were of great significance in developing an independent learning environment. However, the whiteboards had limitations linked to verbal communication between students, necessitating the inclusion of computer-based activities.

Presently, projectors are used as an alternative to whiteboards in Saudi Arabian classrooms to avoid the need for teachers and students write notes manually (National Centre for Technology in Education, 2008). According to Haarison (2008), projectors are useful in presenting a well-organised lecture for students to get a better grip on the

subject and make better notes of the information given by the teacher. Projectors are essential in presenting course related material in an innovative way to engage students into studies such as through games, songs, videos and more (Klopfer et al. 2009). However, a projector should not be considered a computing device, rather it is an electronic equipment that displays images from a computer or film (National Council for Teacher Education, 2016). In regards to teaching and learning modern foreign language, ICT is preferred and regularly used. Klopfer et al. (2009) propose that teachers focusing on using technology in the form of computer-based activities over verbal activities within language learning lessons should find a balance in terms of using technology to support language learning strategies.

The increased numbers of learners create a challenge in fitting in and revamping language learning. Furthermore, the extensive use of computers in learning languages could be disadvantageous, given that it could draw away the attention of students who may be interested in doing other things that are not in line with the lessons. Also, teachers may not know if their lessons are effective. Ofsted (2008) argues that teachers may focus on the subject of the lesson forget to focus on the use of technology with reference to language. Teachers may fail to fully exploit the unplanned opportunities which could present themselves in during lessons delivered with the help of ICT tools. Moreover, it may be difficult to gauge what pupils have learned, given that ICT lessons lack evaluation metrics (Evans, 2009).

According to Ofsted (2008), the substantial use of ICT in teaching has reduced. As noted in a survey between 2006 and 2007, only 25 percent of schools considered harnessing ICT learning. Ofsted (2008) also stated that most of the teachers have remained sceptical about incorporating ICT as part of their teaching methods because

they do not have the confidence to teach using these tools. Claims have been made that the effectiveness of IT in drafting and redrafting text, in a bid to improve the accuracy and style, has limitations. It is frustrating for teachers who planned to use computers in their lessons to encounter a computer crash or other complications. Although using computers in teaching has its advantages, the disadvantages cannot be overlooked and are an important consideration when teachers account for the effectiveness of their lessons.

The importance of technological education through computers and other devices was highlighted by several educationalists (Simmons and Markwell, 2001; Saba, 2009; Symonds, 2000). Evans (2009) proposes that English schools have embraced innovative learning in teaching languages. Importantly, teachers have openly supported the use of information technology due to its ability to spark creativity in oral and audio-visual productions of languages, which are useful for learners when mastering a new language. Evans (2009) goes further to point out the benefits of using information technology when learning a new language. The benefits include the learners' ability to be exposed to the same material over a period of time. Such continued exposure is essential to learning because the student can access a particular piece of material any time they like, and can therefore potentially learn more through the use of information technology. The learner can save the information for a long time which can help them to learn and revise the same materials many times (Hamilton, 2015). Secondly, computers are excellent when it comes to carrying out repetitive tasks without getting bored, particularly if explanation are not forthcoming. Because teachers sometimes have limited time to explain and teach in the classroom, and the students have limited time to ask the teachers to repeat the information if they misunderstand, information technology can be used to support the students by allowing them to watch and listen for

the information that they are not sure about repeatedly, and allows them to study the tasks as many times as they like (Hamilton, 2015). In addition, information technology helps students to find the information and resources they need to improve their understanding of lessons and concepts.

Winston-Salem State University (2016) observed that examinations are useful in determining the learning outcomes, grading or categorizing the students' success. According to experts, written examinations have several strengths when it comes to assessing students. They are economical, provide essential information regarding the students' achievement, are associated with equality and are less subject to copying when properly supervised and invigilated (Murphy, 2009). However, The Higher Education Academy (2016) blames exams for restricting students need to acquire knowledge and links them with low feedback. Examinations also promote surface learning and may not be used to assess creativity, leadership and teamwork.

Information Technology has in studies such as, Chapelle (2003) and Evans (2009) demonstrated its great ability to support language learning. Teachers should be aware that the use of the right information technology could be fundamental in helping students master the learning of languages. Age could play a role in determining the optimum technology that supports language learning in adults and children. For instance, Chapelle (2003) suggested communication sites such as a board room for English learners such as Dave's ESL Café (www.eslcafe.com/). However, this kind of technology is most suitable for adult learners rather than children and this limits the impact of this strategy particularly for the current study.

Using information technology as a method to enhance the language learning of young learners can be associated with some negative effects. Negative effects include issues

related to membership especially with regard to young children, in that they are only suitable for adult learners because there may be strangers visiting the site on a daily basis whose backgrounds are not clearly known. However, Kidzworld (2001) is a safe social network for young learners and there are chat rooms for young learners to communicate with each other. This evidence indicates that there is information technology that can be used to support teachers in terms of the age of their learners and which allows them to develop their language learning.

Kidzworld is one of the websites ideal for children's learning in that it that allows young learners to learn and have fun at the same time (Kidzworld, 2018). The Kidzworlds' chat room is accessible only to registered young users and this can restrict access. The website administrators make sure that the users are aware that what they posting or saying in the chat room is public information. The young learners in the chat room are not allowed to provide any personally identifiable information. Their anonymous Kidzworld username is their only identity at Kidzworld, and this is how users are known on the site. For additional security, online search spams are blocked from accessing any part of the members-only KW Zone, including the chat room. Also, it is a great idea for children as young learners can practice English language discussion within class activities, based on what they had covered earlier.

English learning is enhanced when English is spoken as a national language. Various communication sites such as Dave's ESL Café which is a site for English learners' discussion exist, and could be utilised by English learners in order to facilitate the learning of common wisdom. These may include computer-mediated communication among others, which often rely on Internet connections. Computer-mediated communication offers English conversation opportunities, which could enhance the

student's mastery of the English language by providing opportunities to rehearse. For instance, if schools in Saudi Arabia and Britain made a deal to allow young English learners to have a conversation using an interactive website, it would enable Saudi learners to learn English, while the British English learners would learn Arabic. It would be appropriate for the school and parents to monitor learning progress and to ensure that children learn in a safe environment.

As discussed by Chapelle (2003), the IT associated with English language learners, teacher education, and teachers should be examined to understand its effects on learners. Using these findings it is proposed that learning through the use of information technology which primarily relies on computers for support, has largely contributed towards the development of skills and abilities on the part of English learners when it comes to learning new languages. Also, Chapelle (2003) mentioned that the internet and the use of computers has opened the door to opportunities for participating in English language learning that may be beneficial for language development. Gray et al. (2007) stated that a study conducted on the effects of iPads in Northern Ireland primary schools showed that devices benefited students in terms of reading, writing, numeracy skills, literacy activities and creativity. A major benefit of learning through technology is that it produces almost instant results, which in turn encourages the students by giving them a sense of achievement positivity towards the learning (Erdamarand and Melek, 2008; Riasati, Allahyar and Tan, 2012; Brown, 2011).

Starr (2003) asserts that teachers can successfully create a class website that includes the provision of simple and clear headlines, as well as page titles for children to allow them to learn outside of the classroom such as in the course site. In this case, the course site is often free and includes activities, quizzes, news, games, homework, and advice

which could cause an increase in ability among young English learners, allowing them to learn smoothly and have fun in the same time (Starr 2003). In this respect, as a course site, the website provides a motivating environment for teachers to pass on this important knowledge. As teachers create this interactive course site, the instruction that was initially restricted to classrooms becomes available to students at home, giving them another opportunity to learn. In this respect, the classroom is considered an appropriate area for working through problems, enhancing collaborative learning, and advancing learning concepts. It should be noted that all aspects of the instruction can be changed or edited to ensure proper utilisation of time in terms of learning. The website should adequately prepare students for classwork projects, ensuring that they are engaged in activities that are in line with the lessons.

Donaghy (2014) who is a member of the British Council site, noted that the use of appropriate short video clips encourages young learners to evaluate what they have learned. Through these short videos, learners are able to pick up valuable skills in terms of presentation skills, lexical skills and speaking skills. Tomaszewsk (2012) stated, that a website can provide children with songs whose messages learners can portray sing photos, text, and videos, and can later produce and share the acquired knowledge with their peers in different places. These features are available on modern devices such as iPads. Encouraging students to use a self-study website is another great way to empower them.

The use of IT in the classroom can make it possible for students to become more active and learn in an enjoyable way, consequently enhancing their learning ability. Technology can offer students freedom too organise their language learning activities and thereby, became active users of information technology, rather than passive

information recipients. Information technology shifts certain learning responsibilities to the student. Students enjoy flexibility when they chart their own individual progress such as in online learning which provides more access to course content, and more flexibility in scheduling (Moeller and Reitzes, 2011).

AbdelGhany (2015) proposed through his research that when people participate more in an activity, they perform better at it; the same goes with learning. There is the probability that a student will learn more and therefore succeed if they engage in a broader range of activities. In the next subsections, the approaches proposed by AbdelGhany (2015) are discussed. Physical activity in the early stages enhances the students' physical and mental health and prepares them for learning. In particular, the learner's language should be supported at the same time. For example, if the learner is playing with a ball, it should be possible to teach them words such as "high", "low", "ball", and "me". This means that it would not only be a physical exercise but also an opportunity for language learning.

2.8.2 Information technology as an enhancer of lesson content

Today's students are highly visual as they opt to use pictures and videos in preference to words and speeches (Clements and Sarama, 2003). Combining visual learning tools encourages and enhances students' participation through the addition of diversity to the learning environment. According to Baker (2015), information technology can be used as an essential tool for better student teacher interaction within and outside the classroom environment. It is important to make sure that the information technology is used to fulfil the purpose of providing educational value. Teachers should establish an interaction between the tools and students for learners to gain accurate knowledge. Also, when people make decisions with regard to different teaching media such as

online videos and interactive reading materials, learning, participation and motivation are supported (Stošić 2015; Glaubke 2007; Clements and Sarama, 2003).

2.8.3 Information technology as an enabler of collaboration

Communication is a very important aspect of human life. Today's students are social and they generally like participating in community activities through collaboration, sharing, and exchanging ideas (AbdelGhany, 2015). Consequently, one can combine tools like Google apps and wikis to make students become involved with one another in collaborative environments. In addition, instant messaging makes it possible for teachers and students to engage in discussions regarding tasks and the sharing of ideas, as well as linking up with one another and, in general, working together (AbdelGhany, 2015). This can be expanded and continued even beyond the school groupings, since students need to network widely and work with diversity if they are to succeed in today's world. Such an approach entails the cooperation and collaboration of people who are outside the classroom. Technology can also enable teachers to collaborate as noted by Kaye (1996). Teachers can use the Internet to share information on matters education and share resources such as tests and examinations. Teachers can also professionally benefit from the use of technologies such as by having the capacity to have quick access to information on what they want to teach and the ability to contact colleagues for resources (Kaye, 1996; Wiesenmayer and Koul, 1998).

2.8.4. Technology and student empowerment

Participating students are those students involved in the active expression of their opinions, rather than merely receiving knowledge passively (Owston, 1997). Technology can provide active students with avenues by which their ideas could be

expressed, and not just repeat established facts. Technology can help students find their own voice and become more confident with regard to the way they express their thoughts. Gardner (1983) notes that technology can be used in several ways to increase satisfaction for learners which results in more focused and intellectual students. According to Gardner, using technology can help learners with different learning styles learn better and can empower them to learn both within and outside the classroom. Owston (1997) suggests that the learners should implement technology in their daily life activities, such as while doing homework or in their job search.

In the absence of technology, teachers often apply more efforts to indulge and motivate students in the classroom through various motivational tools such as award cards and charts. It is the teachers' duty to support and boost the capabilities of students in the classroom environments (Crosser, 2008). Group work is useful in aiding students to form effective work interactions by encouraging learner involvement and assistance (Knight, 2004). This would result in a quicker and better understanding of the lessons, application of acquired knowledge and reflection on personal comprehension (Cartney and Rouse, 2006). Group study promotes active learning, the formation of critical thinking skills, enhances learning, contributes to better learning results, improves teaching effectiveness, and enables the quiet learners to be heard, especially in the small group scenarios (Dennick and Exley, 1998; Michaelsen, Knight and Fink, 2002). However, it might be challenging for teachers to individually grade the students from a group work assessment (Sharp, 2006).

2.8.5 Technology and feedback exchange

Providing and obtaining immediate feedback is very common with modern students with technology assisting them to accomplish this by making quick access to data

possible (AbdelGhany, 2015). Posing major questions at the end of any lesson is a recognised method of gathering feedback and assessing the progress of students. With this method, one can easily determine whether there is need to reinforce previous learning, move ahead, or even speed up learning. Google forms and Moodle quizzes, for example, can be used for making quick assessments. Allowing feedback electronically may prove to be as easy as providing the students with their test results, thereby avoiding waiting for the next lesson. The teacher could also make use of external tools such as PaperRater that provides students with immediate evaluation of their essays and also covers areas such as punctuation and vocabulary (AbdelGhany, 2015).

In summary, use of technology by teachers in education should be encouraged because they are the ones who know the weaknesses and strengths of the students in their class (Ivers, 2003). Teachers are the key persons in the classroom; other things including technology devices are just tools to help the teacher deliver information to the students. If the teachers know the weaknesses and strengths of the students this might help the teachers identify the approaches to use for the best results. The teacher should understand how to use technology in the EFL to support language learning (Ivers, 2003). However, the teacher should know about the students in terms of what they like (such as the type of technology they like as a tool) (Ivers, 2003). If the teacher knows what the student prefer to use in the class in terms of the type of technology, the teacher can create activities and exercises depending to meet these likes and preferences

According to Dornyei (2001), teachers should motivate their students all the time and not lament students' lack of motivation. It is their responsibility to influence and enhance their learners' extrinsic motivation. Whilst technology may help language

learning it is also useful to understand the processes that children undergo when learning a new language, this will be addressed in the next section.

2.9 Limitations of Using Technology in the Classroom for Young Learners

Incorporating technology in the classroom has allowed the schools to provide better learning experience to students (Epstein, 2014; Noeth and Volkov, 2004). It is suggested that classrooms should be integrated with information technologies and the Internet. With these technologies, students can, for example, easily take notes of important lectures using laptops and research any topic effectively and easily (Epstein, 2014).

In their study on the effectiveness of technology, Noeth and Volkov (2004) found that technology integrated classrooms helped children to enhance their skills. For example, technology help develop cognitive thinking, and motivates learners to acquire new knowledge. Gregory (2011) also stresses that the implementation of technology can increase interest and motivation.

Although it has numerous advantages as highlighted above, IT also has its fair share of disadvantages (Gregory 2011). In this section, the first discussion will be made regarding how the use of technology can have an impact on a child's brain development in comparison to earlier generations that were not been exposed to technology in the classroom. Secondly, discussions will be made regarding the impact of IT on a child's mood. This will be followed by an exploration of safety and privacy risks owing to technology integration. Finally, a discussion will be made regarding how technology encourages obesity among the children.

2.9.1 Impact of technology on children's brain and mind

Taylor (2012) discusses how technology is changing the way children think and focus. In his article, Taylor states that although technology can be beneficial, information technology is still in its infancy stages and there has not been enough time to reflect on how it has advanced, let alone how it influences children's ability to think. Taylor expresses the concern that because a child's brain is not fully developed, exposure to technology will wire the brain differently in the development stages than previous generations who have not had this level of exposure to technology. However, if the frequency of technology used is monitored in the early years, teachers will be able to control the negative effects that technology brings to brain development. Bennette and Lockyer (1999) suggest that technologies can play a vital role in influencing the mind-sets and approach of students towards the learning process. For example, it was found that using technology could positively shape the students' attitudes and motivation towards learning.

In their study Klopfer et. al. (2009) stated that the majority of the students used computers in their schools for gaming purposes, emerging as a significant challenge for the teachers. Moreover, Herzig (2004) commented that the students who seem use search engines for learning purposes more make less use of their brain and, therefore, their cognitive ability decreases. Carr (2010) stated that the children who are highly dependent on technology in classrooms lose their power of imagination to think or read. Car further notes that over-relying on IT can disrupt concentration and weaken comprehension because when users go on the Internet, they enter an environment that promotes cursory reading, hurried and distracted thinking, and superficial learning.

Klopfer et. al. (2009) raise questions around what is good learning. Student collaboration is part of good learning and can be employed outside of the classroom through the use of technologies. Cognitive abilities refer to the abilities of the brain that helps human beings to carry out tasks, the ability to think, make decisions and remember things in a more appropriate manner (Klopfer et. al. 2009).Thus, when children become completely dependent on technology, the thinking process reduces and therefore the cognitive ability also decreases. Another challenge is that information technology may be too complex for the children, which will ultimately limits their overall learning. However, as children become innately experienced with information technology, this barrier diminishes.

In order to overcome these problems, it is essential for the teachers and school authorities to implement effective measures. Banning technology from the classroom would not be a wise decision (Hamilton, 2015). Though there are some disadvantages to the use of technology in the classroom, as mentioned above, these do not outweigh the benefits to children's language learning development. To tackle this, teachers can implement different approaches in employing technology, such as using technology that is not too complex, as it was found that 'finding the right game is the same as finding any good instructional strategy' (Klopfer et. al. p.16).

According to Hamilton (2015), school authorities should increase their strictness or impose rules and regulations that would restrict students' misuse of technology. One way UK school authorities aim to tackle some of the problems with technology use in schools is through policies that govern the use of devices during school hours. In this regard, IT services in schools ban certain websites such as social networking sites, pornographic sites, and gaming sites so students cannot access them (Ivers, 2003).

Students may be able to access these sites outside of school, for example if their WiFi at home is not age restricted, but because schools have restrictions, they play a crucial factor in limiting the misuse of technology by students. Ivers (2003) suggests that teachers should monitor students' use of their own devices such as smart phones and iPads, in order to ensure that they are not distracted and do not misuse technology, using it only for study purposes.

2.9.2 Impact of technology on children's mood

Paton (2012) states that children who more frequently use technology are more at risk of experiencing negative psychological effects. Children who spend as much as four hours a day using IT are more likely to put their wellbeing at risk compared to children who use 60 minutes or less (Paton, 2012). The specific changes to mood include short-attention spans, obsessive personalities, and reduced empathy because of their addiction to social networking sites such as Facebook and Twitter. To tackle this issue, children's access to technology should be limited or controlled by parents as it was found that after school, six per cent of children ages 10-15 spent more than four hours a day on technology.

According to Hatch (2011), children who are strongly attached to technology are less likely to express their emotions as compared to that of others. Hatch describes this as hiding behind a 'digital veil' as children more increasingly communicate on the Internet as opposed to face-to-face. He found that children become more lonely and depressed when they communicate through electronic communicative media. Overusing technology in classrooms thus negatively affects the mood of children and can reduce their motivation to learn. This can in turn have a negative impact on their learning and subsequent career development. Due to lack of physical contact, such children also

have high chances of facing difficulties in developing social skills as well as in reacting emotionally (Noeth and Volkov, 2004). According to Hatch (2011), face-to-face interaction brings confidence among children to interact with the society that will contribute towards their future development. It is, therefore, essential for school authorities to select the appropriate timing regarding when to use the technology for the children that would avoid the negative influences discussed above. Hatch (2011) proposes that there is no correct age for exposing a child to diverse technology but it is very essential for the school authorities to allow the children to participate in various physical activities, interact with the society to develop their social skills and focus on improving their soft skills (Hatch, 2011).

2.9.3 Technology and young learner's privacy and safety

Children/teenagers often access various online sites such as social networking sites from their schools, where they share their personal information. This in turn creates security risks, which may negative impact on their wellbeing (Education Development Center, 2004). In this context, the teacher plays a vital role in ensuring that students do not access or visit dangerous or risky sites. The teacher may encourage the students to discuss any strange situations they encounter with their teachers and involve children in different extra-curricular activities (Hatch, 2011).

Monitoring students effectively by teachers can prevent them from using inappropriate websites. In addition to this, the school authorities should restrict access to potentially dangerous websites using school resources (Hammond et. al., 2014). One approach to improving the safety of learners according to Hatch (2011) is blocking the potentially harmful websites by the institution. Family members are also responsible for monitoring their children at home. Parents should discuss children's choices and

preferences and support them in understanding about the disadvantages of inappropriate websites (Hatch, 2011). Moreover, the unwanted websites that may create negative impact on their children should be blocked by parents (Hatch, 2011).

2.9.4 Technology and physical activity

As a result of the increasing use of information technology use in schools, students can gain access to their desired study materials fast through the internet (Hammond et. al. 2014). The increase in the use of technology in classrooms has resulted in an increase in the deskbound activities as students invest more time into mental work, rather than movement-based activities (Spark Blog, 2011). Hatch (2011) has showed that the rate of childhood obesity has been increasing rapidly and is not only because of consuming high-calorie food, but also because of technology and less physical activity. Children are more addicted to junk and fast foods that contain high amounts of fat and calorie. Thus, in order to burn them off, the children require greater involvement in physical (Klopfer et. al. 2009). Research conducted by Hammond et. al. (2014) found that physical activity on a regular basis among helps in strengthening the bones and muscles, and reduces anxiety, blood pressure and stress. Thus school should ban the fast foods and unhealthy foods as they highly contain cholesterol and fat contains which are likely to cause of obesity in children (Klopfer et. al. 2009). Furthermore, Hammond et. al. (2014) also stated that the students should be informed on the advantages of eating healthy diet that can help them to remain away from obesity.

2.9.5 Limited learning using technology

There are several ways of implementing educational technology. Brinkerhoff (2006) and Fabry and Higgs (1997) have identified some hindrances such as the institutions'

lack of interest and unsupportive behaviours of educationalists towards technology, thus, limiting the potential of technology before it is implemented in a classroom. Hammond et al. (2004) found that through electronic learning, students devoted a higher amount of time in preparing PowerPoint presentations than in researching on the topic. Thus, the students had to complete projects having less knowledge about the subject matter. Klopfer et al. (2009) stated that the use of electronic texts is also less interactive as compared to the text books, as a majority of e-book readers do not allow the facility of highlighting or marking special notes which are possible in notebooks. Another drawback of technology on mobile devices is that it makes the input and reading of text more difficult to access due to smaller screen sizes (Chartrand, 2016). In order to overcome these issues teachers may provide some alternative displays such as projectors and whiteboards instead of relying on the small screens of laptops, mobile phones and tablets (Hammond et. al., 2014).

The students may be asked to find out any topic related to what has been taught in the class and deliver a speech before the class. This approach can help the students to gain thorough knowledge regarding the topic as in-depth research has to be carried out. Moreover, it will allow the students to gain knowledge regarding how to work in groups, which will further contributes to their career development (Klopfer et. al. 2009). This may involve learners working independently and actively in groups by focusing deeply on the subject. Several researchers have shown that student collaboration is becoming increasingly important in terms of learning interaction (Marton, Hounsell and Entwistle, 1997; Prosser and Trigwell, 1998; Biggs, 1999). This has led to the redefinition of teaching as the facilitation of student learning (Jackie, 2003). Students' interaction and collaboration is as important as teacher-student teaching as it provides learners with an opportunity to learn from one another and learn in real-life situations.

Thus, teachers incorporate different methods of teaching to accommodate this form of learning. However, some educational institutions do not use information technology to support learning and students are still able to effectively learn to a second language. (Abukhattala, 2016).

One of the approaches used by some students is a deep approach while other students may use a surface approach (Biggs, 1999). Good teaching will encourage students to take a deep approach while poor teaching will tend towards a surface approach (Biggs, 1999). A deep approach may be exemplified by a student who may prepare materials and questions before a lecture, will attend all lectures and ask questions, are engaged with their studies, and virtually teaches themselves, using the teacher as a tool as opposed to relying on them. A surface approach may be demonstrated by a less academic, less engaged student who may not be studying a subject of particular interest and may be there solely for a grade rather than knowledge (Biggs, 1999). In terms of technology, a deep approach will involve the technology as a tool for further learning, whereas a surface approach may involve a student using the technology to find an answer for a question on their homework rather than learning the content first.

2.10 The Ideal Starting Age and the Criticisms of the Critical Theory Hypothesis

Lenneberg's (1967) study of The Critical Period Hypothesis is directly related to the approach of using technology. The Critical Period Hypothesis states that there is a relationship between age and the ability to learn a new language. For example, if a person learns a new language at an early age - say 5 years old – he or she will learn the new language more quickly than an older person. Roberts and Penfield (1959) developed the hypothesis at first but it was further analysed by Lenneberg (1967). Lenneberg (1967) believed that for second language acquisition, the hypothesis must

be used in schools to help learners learn the new language. Some of the researchers have also assessed that learning needs to take place before puberty since age has a detrimental effect upon the second language learning process.

To enhance the development of a language, it is first essential to understand and realise the components which help develop the specific language. At first, the student or child learner needs to be provided with a safe and secure environment for learning to increase their motivation and allow them to explore this new learning (Crosser, 2008). The language development process can be further facilitated by engaging learners in different activities and providing them with necessary resources. Also, children learn better when there is company. Children need the opportunity to speak out loud their thoughts and where possible these ideas should be spoken about with others in order to understand their point of view. Hence, children need to always remain engaged in conversations with not only teachers but also their peers (Crosser, 2008). If the teacher is able to provide the students with a conducive environment and learning activities which are appropriate and effective, the students should be motivated to learn. Also, by making use of advanced technology, teachers can encourage the students to participate as in the contemporary world today; the young learners are quite interested in technology. Hence, it is the responsibility of the teachers to develop and maintain the interest of the students in learning the foreign language.

2.11 Stages of Second Language Acquisition

Children need to learn how to speak a language as well as to understand it, and for this purpose there are various theoretical approaches present in the literature which attempt to explain the processes second language learners pass through. The complete language development process cannot be explained by a single theory because every theory has

different content in terms of how language develops, and every author has a different opinion .After analysing the different kinds of theoretical approaches, Crosser (2008) illustrated that it is possible to extract useful insights. To obtain command over the English language, all new learners are expected to go through the same process. The only aspect which varies is the time duration spent by each child at a specific stage. In the following section, the various stages of second language acquisition will be explained.

2.11.1 Stage I: Pre-production

For a second language, it is difficult to gain command over the usage, meanings, word order and grammar complexities (Crosser, 2008). A language acquisition device is a hypothetical tool hardwired into the brain for language development and the learning of language. This helps children to learn rapidly and understand language. Chomsky explained the innate ability of children to be able to learn a language and understand the syntax and grammar which allows the children to progress (Andrew, 2003).

The silent period is known as the Pre-production stage. At this stage, the children are not speaking as yet but have nearly 500 words in their receptive vocabulary (Krashen, 2003). Repetition may be done by some of the students of whatever is being said. This is called parroting and they are not actually producing a language (Crosser, 2008). Rhythmic repetition is a method that has always helped the children learn the words without them actually realising it. Because they have both the elements of enjoyment and learning. Barker (1996, p. 153), who is a music teacher, said "I consider them (Singing and making music) to be essential methods of reinforcing basic skills in numeracy and literacy. While this reinforcement is useful to all children, regardless of their academic abilities, it is based on my own experiences in the classroom". The

younger learners can pick up the words and repeat the particular language of rhymes as a form of play. The learners can learn the rhymes effortlessly. It help the teachers to teach the young learners by playing with the short text of rhymes. A silent period is also observed amongst those English learners where they decide to remain silent before actually communicating in the new language orally (Krashen, 2003).

Dunn (2003, p. 87), an author and educational consultant, stated that "…children explore the mechanics of the English language. They find out how language works and become familiar with the relationship between the sounds of English and the 26 alphabet letters – information which helps them when they begin reading to decode the sounds that make up words. The value of this type of language-play with rhymes in early learning is both underestimated and undervalued". Learning at this stage can be supported by songs to subject learners to rhythmic repetition.

Social emotional skills can be built through group activities that also enhance interactions with the peers. Each child needs to have the opportunity to succeed and it is the responsibility for the education system to establish such situations (Judith, 2008). Non-verbal strategies are used by all early childhood programs as they need to make sure that the children are involved in the group learning situation such as head nods, smiles, and hand claps—can create a fluctuating range of children's engagement (Hansen, 2010; Hyson, 2008).

Pictures or flashcards which have been downloaded from the computer are used to enhance or develop the learners' dispositions and their skills with non-verbal strategies. Physical activities are also carried out for the children. The general knowledge skills and language development for the children is carried even if they lack the resources of the first language (Judith, 2008). Physical activities are also carried out by the children.

This is because there are many benefits of engaging in physical activities, including emotional, social and mental development. In this regard, Spark Countering Childhood Obesity (2009) mentioned that the increased use of technology in the classroom is a form of sedentary activity. It reduces the time available for doing movements-based activities. In the classroom the focus may be on mental activity rather than physical activity from the early stages to prepare students by providing them with knowledge about the curriculum requirements in the future.

The learners' language should be supported as they engage in physical activity. For instance, when they are playing with a ball, it would not only be a physical exercise but it would be possible to teach them words such as high, low, ball, you or me. Concepts such as circle, line, dry and wet can be introduced through activities like pictures. Such an activity would also provide the learners with the opportunity to learn colours.

The attention of new learners must be attracted and maintained. Visuals and pictures are to be shown which learners can respond to. In the classroom, the teacher must be supported through technology with computer games, nursery rhymes and other activities that expand children's vocabulary. Story reading and comprehension can be done accompanied by movements (Judith, 2005). When pre-school children read books, they usually speak about the characters and replicate the story line. Language development is possible through rereading of the favourite story. The reader should make a pause at the key points for the children to observe the vocabulary and retain the phrases and the words (Sandra, 2008). If children like to borrow books, the library must be present and it should also have some DVDs to support their interests. The vocabulary of the children must be developed which is why language teachers need to focus upon

listening comprehension activities. English must be constantly repeated at this stage for the learners (Judith, 2005).

Through repetition, English learners can learn quickly and new vocabulary can be memorized through classroom repetition (Sandra, 2008). When English is being taught as a second language, the learner's vocabulary needs to be enhanced. If his/her vocabulary is insufficient, the learners will not be able to understand others or will not be able to express himself/herself effectively (Lessard-Clouston, 2013). Without proper grammar, it is not possible to communicate in an understandable way and in the same way without vocabulary it is not possible to communicate (Lessard-Clouston, 2013). Vocabulary is not only limited to the language terms. If the teacher makes use of repetition to teach the student vocabulary, it is important that the students repeat these words on their own at least 3 times a day. If this process of repetition is not done, the learners would easily forget during communication (Lessard-Clouston, 2013).

2.11.2 Stage II: Early production

The second stage of language learning begins nearly at 6 months and learners have approximately a 1000 word vocabulary. One or two word phrases can be spoken by the students in this stage. Memorisation of short language chunks is undertaken by learners but they may not necessarily use them correctly (Judith, 2005). Lexical chunks are phrases which consist of at least two phrases, like "my pleasure" or "good morning", and thus supports the modern methods which may help attain the student's knowledge (Lessard-Clouston, 2013). The lexical phrases must be learnt as individual units. Each student would have a favourite method and these methods should specifically be used to motivate them. Tafani (2001) states that there are different learning styles adopted by students. Auditory learners are those students who learn when the words are

repeated frequently. Visual learners are those who learn through focus and look at the information closely. Kinaesthetic Learners are those who write the words many times continuously to remember them.

Children prefer different activities depending on their most dominant learning styles. Gardner, an American psychologist (1983) wrote Frames of Mind': Theory of Multiple intelligences'. In his publication, he states that there are various intelligence levels present within children and it is not simply an individual characteristic. Two groups have been formed for the kind of intelligences. Musical, spatial, logic – mathematical, linguistic and bodily/ intelligences are included in the first group. Spatial intelligence is part of the second group. For multiple intelligences, the author has made use of the term Frames of Mind. The information technology in the classroom will help the learners by focusing on their interests. This can support the various kinds of intelligence according to Gardner (1986). It is the responsibility of the teacher to make sure that the intelligence is used and that the students are able to understand what they are being taught. All students have varied interests and the teachers must use activities which accommodate the different kinds of interests.

The multiple intelligence levels of some children are strong and some have a weak point which is why appropriate learning style should be adopted. It is also needs to be understood if mixed methods are used by the teachers along with technological resources to help the learners to be able to speak the new language.

Crosser (2008), developed one of the most efficient methods for enhancing the development of language. The method proposed does not need the use of expensive technology or any kind of tools. The children are simply spoken to in order to help them learn. There must be a conversation where the child is given undivided attention, eye

contact is made and the teacher is present at the physical level of the child. The children need to be engaged in a conversation to help them learn new language which is a kind of communication approach .Children speak when they are being spoken to. Hence, children require interaction (Bohannon and Bonvillian, 1997).

Songs or nursery rhymes that are played on the computer help the learner acquire these chunks of language. It is important to adopt modern teaching styles. In modern methodology, there are two main parts: The methods that the teachers use in the classroom which have an important role to play, and focusing on the part of the teacher on the students. This leads the students to become more responsible for their own learning and allows them to meet the individual needs of each student (Gairns and Redman, 1986). Vocabulary games, for example, can prove to be helpful in memorising words. According to Swan and Walter (1998) stated that "vocabulary acquisition is the largest and most important task facing the Language learner."

2.11.3 Stage III: Speech emergence

At this stage, the students are able to communicate using simple phrases and sentences as they have a vocabulary of nearly 3,000 words. Questions may be asked which may not be grammatically correct. For instance learners may ask, 'May I go to bathroom?' Short conversations with the classmates may also be initiated by the English language learners. Pictures should be used to help learners understand the class stories being read. The students should take their own time to write about the topics at hand. The thoughts and ideas should be expressed appropriately (Judi, 2005).

To establish communication skills in the best manner possible, it is required that proper communication is carried out between the students and other people in the language

that they are learning. This activity would help learners understand their limitations in relation to speaking, understanding and communication (Yule, 2010). Through the process of identifying limitations it would be possible for learners to work on them and through assignment begin to correct their mistakes. The limitation that is usually observed in Saudi Arabia schools during teaching is that the students do not have the opportunity to engage in conversation with other groups in order to support their learning and extract their mistakes (Almutairi, 2007). In these group learning activities, the students are required to talk as they undertake an activity which would help them with their personal mastery of everyday language skills (Yule, 2010). Language functions must be used to show if they agree or disagree with a situation. Learners need to state their opinion by using the words 'I like' or then 'I don't like'. The shopping list can be extracted from the online shopping system, by the teacher, to help develop an interest and support the learners working in groups. The students can discuss the activities and eventually express how they liked or disliked the activity or experience. It is not necessary that all students have the same experience and some may even be weak in expressing themselves (Yule, 2010).

The main goal of the process needs to be achieved through learning of various grammatical and vocabulary structures (Rodgers and Richard, 2001). The children must share their knowledge and interact with the rest of the students in the class. The teachers must motivate the children to carry out such activities and come forward. Through technology and online games, the children can be attracted towards learning and developing their English language skills. The teachers must observe how the children become motivated to express themselves in the English language and use these methods throughout the time period (Pinter, 2006). The concept of social constructivism was highlighted by Lev Vygotsky, a Russian psychologist. According to his theory, when

the children interact in a social manner, the learning and development process enhances, fundamentally, children learn first on a social level before internalising ideas. Through interaction children are able to understand each other's viewpoints. The growth and education of the students develops through this exposure. Knowledge is developed within the children and the motivation learning frameworks incorporated (Arwa, 2015). It is the social environment which facilitates all these activities as the learners become comfortable with each other and are ready to share their opinions with each rather than the teacher.

2.11.4 Stage IV: Intermediate fluency

At the intermediate fluency stage, English language learners have a 6,000 word vocabulary. When writing or speaking the new language, learners make use of complex sentences. Learners are also quite motivated to express their thoughts and opinions. The class learning activities would be subjected to questions to enhance learning. A strategy recommended by Judi (2005) stated that class learning activities would involve the use of questions to enhance learning. To learn the English content, the students would make use of their native language strategies (Judi, 2005).

The sentence structure and English grammar would be mastered by the English language learners (ELLs) at this stage. However, the writings of the students would contain quite a few errors because sometimes the learners, when they do a written assignment, translate it into English from their native language. The teachers must maintain the focus on learning abilities at this stage. Complex concepts should also be understood by the students at this stage (Judi, 2005).

A consultant who specialises in early care and education, Judith Colbert (2008), specifically for the refugee and immigrant children, has also developed best practices. The strengths and limitations of the learners must always be recognized by the teachers. It is not possible to teach and learn the language all by oneself. It is importance to pay particular attention to the learners' strengths and their limitations in order to help them. The teaching is not to teach the learner what he or she has to do. It is more about being responsive to the learners to discover their weaknesses and strengths.

2.11.5 Stage V: Advanced fluency

For the students to attain second language cognitive academic language proficiency, it takes between four and ten years. The content area learning performed by these students would be quite close to their native language (Judi, 2005). Therefore, less approaches need to be adopted because of their advanced level, as mentioned above, they are very close in English level as they are in their native language. Also, all of the above approaches are still adopted and applied throughout the language learning until they have reached stage V. The current researcher is interested in young learners' language learning and therefore, the focus will not be on advanced levels but only on young (new) learners.

2.12 The Teacher-centred Approach Versus the Student-Centred Approach to Teaching and Learning

Al Zube (2013) notes that while the teacher-centred approach is commonly used in the teaching of language, the learner-centred approach is also practiced. In the learner-centred approach, learning majors on the learner's needs as opposed to the needs of other parties such as teachers and administrators (Al Zube, 2013; Wright, 2011). On the

other hand, the teacher-centred approach relies on the teacher to use their expertise to help the learner understand what they are being taught. In this situation, the learner takes a receptive and passive role in learning (Wright, 2011; O'Neill and McMahon, 2014). Experts note that both the teacher-centred approach and the student-centred approach have their advantages and disadvantages. The teacher-centred approach is faulted for being less exciting for students, less focused on deeper learning, and for offering low level of choice for students (Lasry et al., 2014). The student-centred approach on the other hand presents exciting learning opportunities for learners, makes learning interesting and increases learners' self-confidence (O'Neill and McMahon, 2014).

Marton et al. (1997) note that there are two main approaches to learning; surface level learning and deep level learning. The surface level learning tends the be more focused on what the lecturer said rather than developing a deeper understand, and involves fewer cognitive activities (Marton et al., 1997). For example, the learners may be forced to adopt a learning strategy involving learning in the class. However, a deep level learning approach tends to ensure that the learner understands what the lecturer has explained and allows them to be able to understand the meaning in their own way (Marton et al., 1997). Also, the deep level learning approach connects ideas so that the learner can understand the concepts and make meaning out of the material under consideration, such as writing an essay with a logical argument (Fry, Ketteridge and Marshall, 2003). Ramsden (2004) considers the purpose of teaching methods as, "… to encourage 'deep' learning and that through this it is anticipated that students will change the way they view the world".

2.13 Summary

In this chapter, the use of technology for supporting learning was highlighted. The chapter also discussed how information technology may support teachers and students. The chapter also discussed the education system in Saudi Arabia and the teaching of EFL in the country. The chapter also discussed the integration of information technology in the classroom. Yet again, the chapter discussed the impact of information technology on learners. Evidence shows that information technology can impact on learners' motivation, involvement, and inspiration. Some of the disadvantages of incorporating IT in learning include changes in the child's mood, negative impact in a child's brain, exposure to various privacy and safety issues, and obesity driven by less physical activity among others. Also, it emerged that the ideal age to begin learning English is 5 years old, and definitely before adolescence based on the Critical Period Hypothesis. Also discussed were the stages of second language acquisition

The next chapter will explain the methods applied in the research project. The chapter will first detail the theoretical perspectives and philosophical approaches applied in the study. The chapter will also discuss the methodological approaches, the research design, data collection methods, and the validity and reliability of the research instruments. In addition, the chapter discusses how the data collected from the study was analysed, ethical issues and how they were addressed and issues surrounding the researcher's positionality.

3. Research Methods

3.1 Introduction

As previously noted, this study aims to identify the information technologies used by English language teachers in Saudi primary schools use as part of their language teaching strategies, and what these technologies are used for. It also aims to investigate the impact of the use of these technologies on English language learning by primary school students in Saudi Arabia. The study also seeks to identify the barriers to the use of information technology in the teaching and learning of English language in primary schools in Saudi Arabia. In this chapter an explanation of the design and development of the project, and a discussion of the various methodological approaches and the related strategies employed in collecting and analysing the data is discussed.

3.2 Research Paradigm and Theoretical Perspectives

A research paradigm brings together the common beliefs and set of agreements agreed upon by many scholars towards evaluating and perceiving an issue under consideration (Cohen et al., 2011). Babbie (2007, p.31) states that paradigms are different perceptions of how reality is normally perceived. Cohen et al. (2011) note that the “positivist, objective approach”, and the “interpretivist, subjective approach” are research options commonly applied in many situations. The table 2 reflects the key features associated with both the two approaches:

Table 2: The Core Differences between the Positivism and Interpretivism Approaches

Positivism	Interpretivism
Applicable for larger or medium sized research processes, and is both quantitative and objective.	The scale of the research is comparatively smaller, and concludes qualitative and subjective output
Propagates the increasing adoption of scientific methodologies.	It advocates the adoption of social processes, focusing upon aspects of language, consciousness and shared meaning.
It is considered a modular representation of natural sciences	It is non-statistical
Focuses upon social aspects and the overall society	It is individual
Generalises from specific aspects presented	Interprets specific aspects of the paradigm
Considers the external viewpoint in trying to identify causes and the associated behaviour	The theories encourage scholars to engage on a personal level, concluding their actions in consideration of the behaviour demonstrated.

(Adapted from Gray, 2004, p.21-24)

The positivist perspective holds that research is reliable, valid and representative and that, therefore, broad generalisations can be made from the data which is mostly analysed quantitatively. Considering that this study seeks to make generalisations out of the data collected, the positivist paradigm took effect. Positivist methodologies were

used to evaluate the impact of using information technology on children's performance in English language as measured through an examination.

The interpretivist perspective holds that there are multiple truths, reality consists of people's subjective experiences of their world, and that knowledge and meaning are acts of interpretation. As such the interpretivist perspective holds that no objective knowledge can be derived independent of thinking, reasoning humans. Bryman (2012) suggests that researchers are inclined towards undertaking interpretive subjective paradigms and recommends that individual subjective experiences are of great relevance when using interpretive paradigms as a methodology. This could be attributed to how individual perceptions provide meaning to what is considered reality. Hence, this contributes to an assertion of how reality is perceived from the social context, as opposed to determining the process objectively. It therefore summarises how individuals make greater meaning of the world (Masson, 2013). Efforts to link the research undertaken to a discovery of the associated philosophical considerations has been worked through and tried by multiple writers in the past. In consideration thereof, qualitative research are considered to be more aligned with the interpretive paradigms. Given that the study sought to establish the truths based on the subjective experiences and views of participants, which generally comes in the form of qualitative data, the study also applied the interpretivist perspective. The research paradigm has a bearing on the methodology applied in the study and influences the study approach and research strategy.

3.3 Study Approach

There are two main approaches to research; deductive and inductive. While the deductive approach is aimed at testing a theory, the inductive approach is concerned

with generating new theory from data. On its part, the inductive approach focuses on compiling the available data, which is subsequently analysed to reveal patterns within the data and relationships between variables. While the deductive approach often begins with a hypothesis, the inductive approach commonly relies on research questions to narrow the scope of the study. Furthermore, deductive approaches generally seek to investigate causality while their inductive counterparts emphasize on exploring new phenomena or analysing previously studied phenomena from a different point of view. Although there are no set rules, deductive approaches are often linked with quantitative research while inductive approaches are linked with qualitative research. Given that the study was aimed not at testing a theory, but rather at generating new knowledge out of data, the study was deductive in approach.

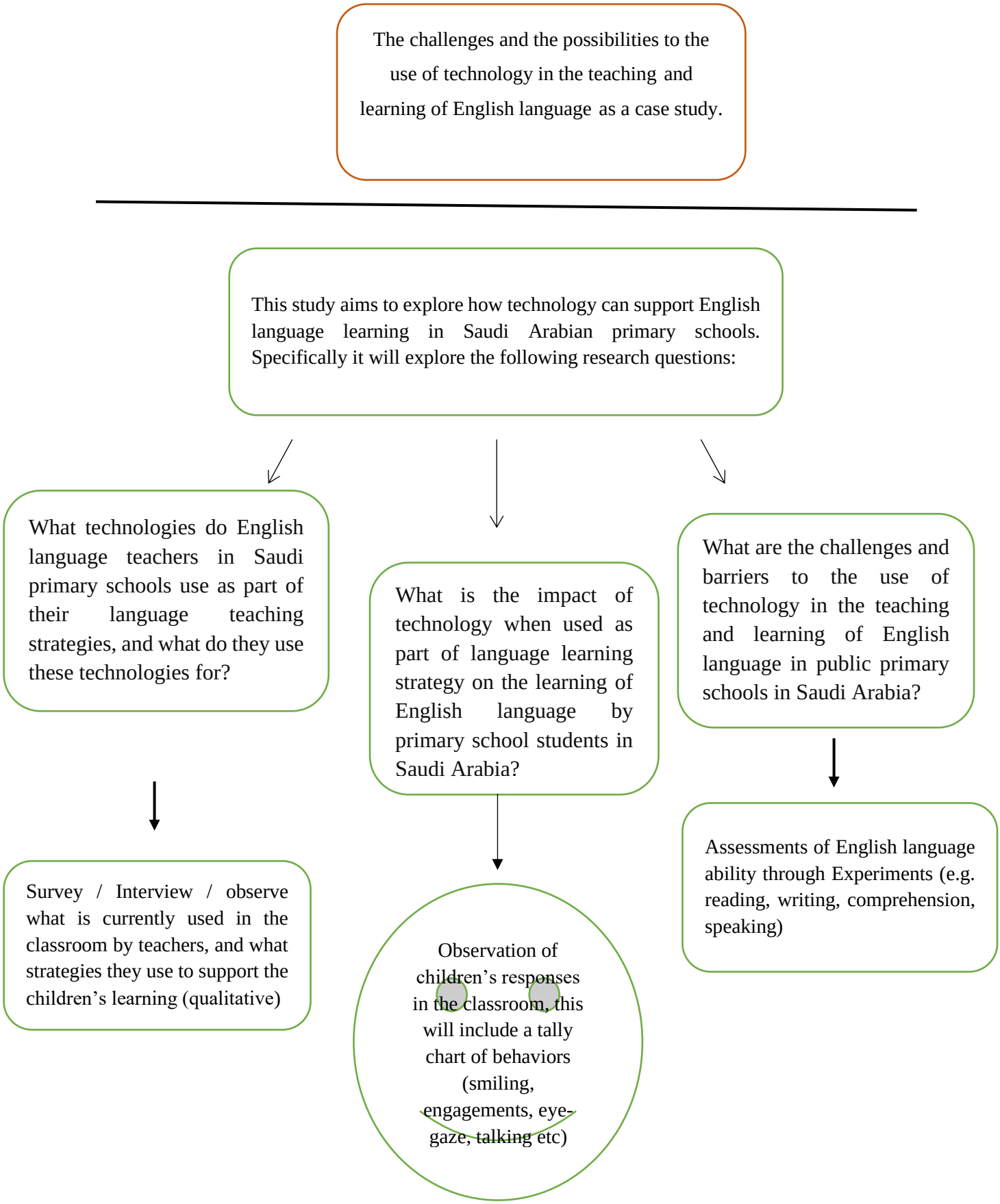

Figure 1: Research methodology of the Study

3.4 Research Strategy

Different research strategies can be applied in a study, the most common being survey, experiment, case study, action research, ethnography, and grounded theory (Fine, 2003). Researchers are known to utilise case studies in conducting a diverse range of studies, and social scientists have utilised the tool to periodically evaluate various contemporary real-life scenarios. The methodology provides the basis for successfully applying the various ideas under consideration and extends the reach and effectiveness of the study conducted (Soy, 1997). Researchers associate case studies with empirical inquiries which often aid in evaluating existing phenomena within the real-life context (Yin, 2014). This method of research is for example suitable for use in situations where consideration of context helps in understanding a phenomenon and where evidence from multiple sources need to be relied on (Yin, 2014).

Thomas (2011) is of the perspective that case studies aid in concluding a given case, or resolving multiple smaller cases related to a particular topic being investigated. This could relate to a specific individual, situation, institute or a time-period. Yin (2014) holds the view that case studies can help in evaluating existing trends, or evaluating clearly demarcated divisions with regard to the specific trend and the related context. Creswell (2013) is of the view that case studies could relate to specific events, tasks, programs or individuals. Case studies enable a deeper perception of the existing trends, while focusing upon the process and results concluded. Bell (2014) supports this perspective in that case studies provide a clearer, detailed and richer description of the original objectives. Stake (2010) notes that case studies are often constrained by time and space considerations.

The current research used a single case study in order to evaluate how technology impacts on English language learning within a Saudi Arabian primary school. The case study included in the study provided input with regard to how the process of English language learning and teaching is conducted within these classes. A case study such as this often facilitates a better perspective and a deeper understanding of the issue under consideration and builds upon the available information on the topic that is being researched.

In the beginning while designing the case study for the current study, the researcher evaluated the option of drawing upon either a single case study, or gathering data from several schools. Selecting and using multiple cases is considered more beneficial rather than depending upon a single case in consideration of the fact that information accrued from multiple studies would be more reliable and generalisable (Herriott and Fires-tone 1983 cited in Yin, 2014). However, drawing upon a plethora of case studies also has its drawbacks since it involves the use of significant resources and is more time consuming compared to evaluating and concluding data from a single case study (Yin, 2014). In consideration of the time constraint associated with the current study, a single case study was found to be more relevant. Bell (2010) reflects upon a common complaint in that when case studies are constrained with regard location or rely on very few samples, they are often not good for generalising the results. Furthermore, certain personal biases of the researcher may seep into the conclusion drawn which in turn compromises the validity of the conclusions.

Yin (2014) notes that case studies can be generalized to a great extent, and that analytical generalisations could contribute towards deriving conclusions in terms of the associated theories of the study that has been conducted. As a result, the generalisations

would be possible with regard to the population involved since replicating the context is often possible when considering various theories. Nevertheless, researcher bias is an important issue which has to be considered. This aspect could be countered by the use of various aids, including presenting an evidenced sequence or having key participants periodically review the draft of the study conducted.

Soy (1997) states that critics of case study argue that using a few case studies perhaps does not improve the overall validity of the study concluded. Others are of the perspective that intensely reviewing the topic often contributes to researcher bias. Still others consider case studies to be more appropriate as simply a research tool. The researchers are inclined to use case study for evaluating a range of real-life scenarios, challenges and issues. It is important to decide upon whether to select just a single, or multiple case studies for each study undertaken, although the studies could also include multiple perspectives dependent on how the associated theories were analysed. Thus, such studies entail dual analysis levels, increasing the complexity of the study and the quantity of data being evaluated. The researcher has to pre-determine the data and evidence to consider, and the methodologies to be applied. The data compiled is generally considered qualitative although it could be also quantitative (Soy, 1997).

3.5 Data Collection Methods

In primary research, data can be collected in a number of ways. For one, it can be collected through observations that involve looking at participants or phenomena and observing what they do or how things happen. Secondly, interviews can be used to gather input from participants in small gatherings or individually. A study can also involve a survey which may involve enquiring about the viewpoints of the participants by providing them with questionnaires. Driscol (2011) notes that the data collection

method applied in a study depends on factors such as the research aims, the suitability of the research method, theoretical beliefs of the researcher, availability of time and resources, and what is already known on the subject. On his part, Gans (1999) notes that the data collection method applied in a research should have the capacity to gather the maximum possible information and reduce personal and other biases in the study. The current study involved multiple data collection methods including a questionnaire survey, personal interviews with English language teachers, informal interviews with a randomly selected sample of students, participant observation during lessons, and an experiment. The following sections will discuss the different data collection methods applied in this study.

3.5.1 Survey Questionnaire

Questionnaires are widely used for collecting data during a survey. As data collection tools, questionnaires have the capacity to collect data from several people and on several variables quickly, cheaply, and efficiently compared to several other data collection methods (Ruel et al., 2015). However, one major limitation with questionnaires is that respondents can provide false information which no doubt impact on the results and credibility of the study (Driscoll, 2011). This study used questionnaires for data collection given the need to collect data on several variables including the IT devices used in teaching and learning, how or for what purpose these devises are used, and the challenges affecting the use of information technology in the teaching and learning English language.

As noted by Ruel et al. (2015), a questionnaire may contain open ended, closed ended, or both types of questions. As such a questionnaire may be structured, semi-structured, or unstructured depending on the type of questions they contain. A structured

questionnaire which contains only closed-ended questions provides limited options in terms of possible responses (Driscoll, 2011). An unstructured questionnaire on the other hand only contains open-ended questions, while a semi-structured questionnaire contains both open-ended and closed-ended questions. Nevertheless, it is relevant to keep in perspective that open-ended questions are more time consuming to answer and have the potential to generate huge amounts of data.

The questionnaire used in the study contained questions that captured the characteristics of the respondents including their age, level of teaching experience, and training on the use of technology. In addition, the questionnaire captured information relating to the technologies applied in teaching and the teaching of English language. Considering the need for additional explanations on various issues touching on the use of IT in the teaching of English language by teachers, the study used a semi-structured questionnaire. A number of the questions in the questionnaire were similar to those featured in the interview guide. This was done to aid in corroborating the information provided by the participants and helped to enhance the reliability of the study findings.

3.5.2 Interviews

Interviews or the practice of directly questioning respondents can be an effective way of collecting information and input during a study (Driscoll, 2011). This is because individuals often communicate more freely in direct communication and the interviewer has the opportunity to dig deeper into issues by asking follow up questions (Ruel et al., 2015). The practice of conducting face-to-face interviews adds to the efficacy of the interview since the interviewer is able to note the non-verbal language of the respondents too (Driscoll, 2011). Similar to questionnaires, interviews have a

limitation in that interviewees may for whatever reason provide false or misleading information.

In conducting an interview, it is important to make the respondent aware of the purpose of the entire exercise and the expected duration and timing of the interview. Making a recording of the interview can help reduce or eliminate researcher bias. Prior to initiating the recording process, it is important to take permission from the participants, a step which has been included in this project.

Interviews were conducted with the two teachers featured in the study (Teach N and Teacher R). The interviews were conducted using a semi-structured guide that contained several questions meant to corroborate the information provided by the teachers through the questionnaires. In addition, interview questions gave the researcher the chance to ask questions that were not featured in the questionnaire but that were important in clarifying which, how, and why technologies were used in teaching and the barriers that hampered their use in the classroom. Bias in conducting the interview was minimised through the use of semi structured interview guide, audio-recording of the interviews and the analysis of the data by two independent people; the researcher and an assistant.

3.5.3 Observation

Gans (1999) defines observation as the systematic description of behaviours, artefacts, and events in the social setting chosen for the study. Observation enables the researcher to understand the activities of the people being studied in the natural setting by observing and in some cases taking part in those activities. Given that observation does not depend on the answers given by the participants, observations often provide more

accurate information compared to interviews and questionnaires (Angrosino, 2000). However, observations may be limited by the fact that the researcher may be influenced by their subjective views and so interpretations of observations may be subjective, rather than objective, which in turn may affect the reliability of the study (Gans, 1999). Observation research may broadly be divided into two; participant observation and non-participant observation (DeWalt and DeWalt, 2002). Non-participant observation takes effect when the research makes no intervention or attempt to manipulate variables, but simply studies behaviours as they naturally occur in natural contexts (Angrosino, 2000). Participant observation on its part involves the researcher covertly or overtly joining in and becoming part of the group being studied to get a deeper understanding of their lives (DeWalt and DeWalt, 2002). Gans (1999) notes that observation data collection can either be structured or unstructured. While structured observation involves collecting data using specific variables and based on a predefined schedule, unstructured observation involves collecting data in an open and free manner without the use of pre-determined objectives or variables.

Observation as a data collection method was used in this study given the need to gain a deep understanding on what really goes on during the teaching of English in the natural setting of the Saudi Arabian public primary school. The need to collect information expressed non-verbally, view first-hand the technological devices used in teaching and how they are used, and collect information that participants may not be willing to share for whatever reason, and enhance the validity of the study also informed the choice of observation as a data collection method (DeWalt and DeWalt, 2002). With observation having the potential to generate an immense amount of data, selective observation was done with a focus on the collection of data that surrounded the study specific objectives (Angrosino, 2000).

The study involved non-participant observation given the need for the researcher to collect and record as much verbal and non-verbal information being expressed by participants. Considering that observation can be subject to researcher bias, Gans (1999) suggests the use of systematic observation procedures as a way of avoiding bias in the selection and recording of data. Against this background, structured observation was undertaken as guided by the objectives of the study. Data collected through observation included the information technology devices used during teaching and learning of during English language classes, what the devices were used for, the barriers to the use of these devices, and the impacts these devices had on the teaching and learning experience. Data collection was completed once for each class stream lesson and began and ended with the lesson and therefore took 45 minutes per session. Data collected in the classroom was audio recorded and recorded in the form of field notes.

3.5.4 Experimental Research

Scientific experiments commonly have two groups: an experimental group and a control group (Ruel et al. 2015). The experimental group is usually provided the treatment or intervention, while the control group remains untreated. In this study, the experimental and control groups were each composed of three subgroups and each subgroup comprised members of a specific grade. To select members of a subgroup, all the students in a given grade were divided into two groups. The students belonging to each of these groups were randomly allocated. To select members of each group, the names of all the members of a given grade were listed and assigned serial numbers. A random number generator was then used to select half of the students in the grade who formed the control group. The other half formed the experimental group. A total of six subgroups were created out of the three grades (grades 4, 5 and 6) that were featured in

the study. The subgroups were conveniently named 4A (43 students), 4B (43 students), 5A (41 students), 5B (40 students), 6A (41 students) and 6B (41 students) with the subgroup number corresponding to the grade of the students forming the subgroup.

Subgroups 4A, 5A, and 6A constituted the control group while subgroups 4B, 5B, and 6B constituted the experimental group. Each sub-group pair (such as 4A and 4B) comprised children of more or less the same age, same gender, and almost same level of proficiency in the English language, thereby controlling for the effects of gender, learners age, and differences in grade and proficiency. During the experimental study, factors such as teacher training, teacher experience, differences in the school environments, and the teacher's gender were also controlled for since the study was conducted in one school and both teachers were female, had equal experience and had gone through the same level of training. These factors were controlled for since past studies have indicated that gender, learners' age, differences in grade, teacher training, teacher experience, and school environment have an impact on language learning (Crosser, 2008; Krashen, 2003; Wandera, Imonje, & Akala, 2019).

In the experimental study, the researcher followed the national English curriculum but made changes to the presentation aids. The national curriculum was maintained since it was based on this curriculum that the participants were assessed. In Saudi Arabia, English is a compulsory part of the national curriculum from grade four (Dirou, 2016). As noted by Aljuhaish (2015), the country's national primary school English curriculum aims to promote and improve learner's basic language skills. The national curriculum therefore emphasizes on the development of reading, writing, listening, comprehension, and speaking skills among learners (Aljuhaish, 2015; Alsudais, 2017).

The curriculum also focuses on developing the vocabulary and grammar practices of learners (Alsudais, 2017).

Both the control and experimental groups attended four English language lessons (each lasting 45 minutes) per week for a total of four weeks. The subgroups with students of the same grade covered the same curriculum and topics and were each subjected to the same tests. All the subgroups were subjected to two tests, the tests were administered at the end of the second and fourth week of the experimental study, and adequate measures were taken to ensure that the tests completed by members of a given grade were undertaken at the same time and chances of cheating minimised. The average of the test results was used to compute the test scores of the students as used in the study.

Members of the control group attended English language classes in which no information technology was used in teaching and learning. For the control group, the course book and chalkboard were the main tools used in teaching and learning. The experimental group, however, was subjected to an environment in which teaching and learning was done using a wide range of information technologies (iPad, the Internet, YouTube, Bluetooth, and laptop/ desktop computer) in addition to the course book and chalkboard as applied to the control group. In all of the English language classes for the experimental group, as many of these information technologies were applied as practically possible. Furthermore, these technologies were applied in the experimental group lessons as often as necessary. These measures were taken to ensure that the potential impacts of information technology on learning was realised to the greatest possible extent. The control group was subjected to teaching using no IT to enable the researcher determine if and how the use of technology impacted on English language learning as measured through summative assessment (a test). Conducting such an

experiment helped specifically target the impact of using technology on English language learning, which may not be more reliably studied using other research methods.

Learner assessments are some of the most important drivers of student learning and means of evaluating language proficiency (Berry, 2008). Assessments are aimed at evaluating the achievement of learning outcomes, and grading or classifying student achievement as noted by Winston-Salem State University (2016). With respect to ESL, learning outcomes commonly include grammar; reading, writing, and oral skills; and fluency and accuracy in producing and comprehending written and spoken English (Winston-Salem State University 2016). The learning outcomes targeted by the intervention included grammar, vocabulary, reading, writing, comprehension, and speaking skills.

Rao (2016) defines language proficiency as one's ability to skilfully or competently perform in the language irrespective of the form taken by the performance. Thus, someone who is proficient in a language should thus demonstrate fluency and accuracy in the language. Rao (2016) notes that test scores may not reliably correlate with proficiency as different measures of proficiency call for the use of different types of assessment. In the experimental study, the researcher explored the students' proficiency in English language by assessing the ability of the students to read, write, comprehend, and speak. These areas were targeted as they include the skills targeted by the national curriculum. Assessment was completed using written and oral language tests that included questions that tested the learner's ability in these areas. In this case, summative assessment in the form of tests was applied given the need to evaluate what the students

had learnt (as opposed to how they were learning) at the end of the study period (Burke, 2010).

Experts note that written tests as an assessment method is advantageous in that it is economical and is a valuable source of information on student achievement, offers equal opportunities to learners and is less subject to plagiarism (Murphy, 2009). Murphy (2009) however contends that different teachers differ in their grading practices and policies which may be a major limitation of exams as an assessment method. The Higher Education Academy (2016) also faults exams for not increasing students' desire to learn, traditionally being associated with low feedback, encouraging surface learning, and for not measuring aspects such as creativity, leadership, and teamwork. To overcome these challenges, there was agreement between the teachers in relation to how marking and grading would be done well before the tests had were administered. In addition, there was an agreement between the researcher and the teachers that the learners would be given feedback about their performance within two week after the tests had been administered. Since the study was only concerned with language outcomes, the effect of the tests on teamwork, leadership, and creativity were non-issues.

Experimental research is often objective and therefore overcomes the subjective limitations commonly experienced with studies involving observation and interviews (Gray, 2004). To ensure objectivity was upheld, the researcher did not take part in the setting, marking, and grading of the tests issued to the students but that these were agreed on and executed by the teachers. There were chances of the study suffering from the subjective interpretation of the experimental study results. This was, however, avoided through the accurate and unbiased reporting of the study results.

3.6 Pilot Study

Yin (2014) notes that it is important to conduct a pilot study prior to conducting the actual study as this can help improve the validity and reliability of the study. By conducting a pilot study, the researcher can ensure that the questions featured in the research instruments are valid, simple, and clear enough as to avoid ambiguities and confusion which negatively impact on the reliability and validity of the study (Ruel et al. 2015). To ensure that the research instruments contain valid questions, are properly structured, and contain questions that are clear (and not confusing), a pilot study was conducted. The pilot study was conducted on a public primary school in Saudi Arabia with similar characteristics to those of the school featured in the actual study. Two English language teachers in the school were asked to take part in the study and they together with their students (a total of 45 students) were subjected to similar conditions as were applied during the main study.

The results of the pilot study indicated that the study instruments were reliable given the high correlation (correlation coefficient of 0.8) (Creswell, 2013) between the results achieved between the first test and the second test which were done one month apart. While the results of the pilot test were not reported in the main study, the results informed modifications in the research instruments especially with regard to the format of the questionnaire, the structure of some questions in the different research instruments, and the wording of certain questions (Yin, 2014).

3.7 Sample

This research focused on applying a single case study for understanding how technology enhances the English language learning in Saudi Arabian primary schools.

The participants in the study included a total of 249 students and two female teachers from one public primary school in Saudi Arabia. The students were in grades 4, 5, and 6 and took English as a subject. The student participants were aged between 10 and 12 years while the teachers were English language teachers. Teacher R, in the 36-40 age category, was responsible for delivering all English curriculum classes while Teacher N, in the 31-35 age category, came from the English Institute and taught English language to students during their free time only (extra classes). Teacher R had taught English for 6 years while the Teacher N has taught English for five years. Both teachers were Saudi Arabian citizens, Arabs, and obtained their education, training, and teaching certification from Saudi Arabia. The teachers also noted that they had both undergone training before they began teaching English.

The two teachers interviewed were both female English teachers who taught in a public primary school in Saudi Arabia. One of the Teachers N trained as a teacher at the English Institute and had a diploma in English, while the other Teacher R had a Bachelor's degree in English. In spite of their qualifications as English teachers, both interviewees preferred to respond to the interview questions in Arabic, noting that they experienced difficulties understanding and speaking the English language. The responses provided by the interviewees were therefore translated from Arabic into English.

3.8 Validly and Reliability

Phelan and Wren (2006) note that it is important for a researcher to ensure the validity and reliability of the research instruments they use as they affect the overall reliability and credibility of the study. Validity relates to the extent to which a measure performs as it is designed to or accurately measures the item it is supposed to measure (Phelan

and Wren, 2006). In this study, content validity was applied by seeking the opinion of experts (supervisors) and practitioners from the University of Lincoln, UK. Construct validity was ensured by restricting the questions to the variables and issues of interest with regard to the study objectives.

As with all research, limitations should always be considered. With regard to this particular project, there was a limitation that a large topic area is being tackled by just one researcher, with limited resources. Considering this, it placed an extra emphasis on showing the validity of the research, which has influenced the decision to adopt both triangulation and a mixed method approach with the main aim being to produce results that are dependable, reliable and credible.

Undertaking a mixed method approach and by using triangulation helped the researcher obtain reliable results and provided the study with a greater capacity for analysis and for the description of the results. Throughout this study, the results were treated in a transparent manner, and all relevant information recorded, even if they did not 'fit' with the researcher's expectations. Although the result of this research cannot be generalised across the population, the uniqueness of the experiences described provide rich detail which will help other researchers to understand how technology impacts on English language teaching and learning. In this research, the internal validity is a measure that ensures that the researcher's experimental design closely followed (Shuttleworth, 2009).

3.9 Data Analysis

Data collected through questionnaires and through the experiment was coded on Microsoft Excel software after being verified by corresponding data gotten from

observation and interviews. Data obtained from observation was used in case there was a conflict in the information drawn from the questionnaires, observations, and interviews. The data so collected and coded was analysed to determine descriptive statistics such as frequencies, percentages, and means. Data drawn from the questionnaire was also tabulated for ease of comparison.

The qualitative data drawn from the interviews and observations were separately transcribed before being analysed through content analysis. According to State University of Colorado (2004), content analysis is a research tool used to determine the presence of certain concepts or words within texts. In this regard, the method involves quantifying or analysing the presence of, meaning, and relationships between concepts and words, as well as inferring messages from the text. Krippndorff (2004) defines the method as a research technique used for making valid and replicable inferences from texts and other meaningful matter with respect to the contexts in which they are used. In spite of the different ways content analysis is defined, experts generally agree that content analysis involves systematically compressing many words of a text into fewer content categories based on certain coding rules (Roberts, 1989; Stemler, 2001). Adding their voice to the debate, Hsieh and Shannon (2016) state that irrespective of the approach used, the method involves interpreting meaning from the content of text data thus qualifying it as based on the naturalistic paradigm.

There are several advantages associated with the content analysis as noted by Colorado State University (2017). One main advantage of the technique is that it allows for both qualitative and quantitative operations. Also, over time, through an analysis of texts, it can provide significant cultural and historical insights which may lead to a deeper understanding of how humans think and use language. Also, the method is inexpensive,

unobtrusive and does not necessarily demand direct contact with people, it also is easily replicable (Colorado State University, 2017).

Despite its numerous strengths, content analysis has a number of limitations. For one, it is a purely descriptive method and may, therefore, fall short of revealing the motives that inform the patterns observed (Colorado State University, 2017). Another major limitation of the method is that if the coding of the data obtained is done inaccurately, the findings become invalid. Furthermore, it is easy for the researcher to overlook the contexts in which words are used which may affect the findings (Colorado State University, 2017). Many researchers also contend that on its own, the research method is not valid in the performance of complex textual analyses (Stemler, 2001).

Content analysis was completed to identify entries that answered the research questions. At first, the data collected using different data collection methods was summarised before being synthesized narratively (Erlingsson and Brysiewicz, 2017). In order to ensure transparency and credibility, a preliminary synthesis of the study findings was done as suggested by Boland et al. (2017). This process was followed by an exploration of relationships within the different sources (Boland et al. 2017). More specifically, the data was broken down into manageable code categories which were further grouped into new code categories. By engaging in an iterative process, the key ideas or themes emerging from the coded information were identified and discussed as suggested by the University of Colorado (2004). Given that the research objectives demand qualitative answers, most of the study findings were qualitative in nature with only a small proportion of the data and findings being quantitative.

3.10 Triangulation

Researchers often take advantage of triangulation in order to improve the reliability and validity of their study. In this case, they assess the research questions from different perspectives (Guion et al. 2008). There is a misconception regarding the objectives of triangulation. It is believed that triangulation is used to attain consistency within various data approaches or sources. However, there is a definite presence of inconsistencies since all approaches have their own level of relative strength (Patton, 2002). Consequently, triangulation is a valuable approach that helps to obtain in-depth information and helps increase the level of reliability of the research (Thurmond, 2001). While it is believed that using a single method would allow the aspect to be assessed appropriately, a thorough and more in-depth analysis is possible using multiple approaches (Stake, 2010).

Different types of triangulation include theory triangulation, data triangulation, methodological triangulation, environmental triangulation and investigator triangulation (Patton, 2002). Methodological triangulation was used in this research as data was collected using different methods. Collecting data using different methods allowed the researcher to corroborate data obtained from the different methods or provided by the participants to ensure the most accurate information was relied on in the analysis, thereby improving the reliability of the study.

3.11 Researcher Positionality

Considering my own personal background, which has consisted of considerable albeit basic background research work and observation of English Language classes and Master's level research in this field, I had the opportunity to complete a PhD thesis

investigating elements of English Language teaching. Furthermore, since my career objectives include becoming an English teacher in Saudi Arabia, this level of exploration into teaching methods is supported by additional personal motivation and curiosity. I hope that my findings can later influence the use of technology within Saudi classrooms for English Language learning. I am a firm believer that technology has a role to play both inside and outside the English Language classroom in Saudi Arabia, and wish to produce a thesis that will investigate the benefits of not only using technology inside the classroom, but sustaining its use outside of the classroom as well. Given my limited experience in conducting a research study, there are chances that the study may not have been well designed and analysed, especially with regard to the qualitative data.

3.12 Research Ethics

The British Educational Research Association (BERA) states that "The Association considers that education research should operate within an ethic of respect for any person involved in the research they are undertaking" (BERA, 2011). The School of Education Research Committee at University of Lincoln gave ethical approval to conduct this research (see appendix 7.2). In addition, the Saudi Embassy provided sponsorship for this research and approved of the methodology applied in this study. The identity of the participants were kept secure and remain anonymous in the publication of any data collected during this study. In this research the researcher sought the consent of the schools head teachers, teachers, parents, and the children to conduct the study (see appendix 7.1).

Firstly, the researcher contacted the school in Saudi Arabia to obtain permission to undertake the pilot study. Since schools in Saudi Arabia do not use a lot of technology,

it was difficult to contact them through emails or Skype if the researcher needed information. The researcher was aware of the need to choose school which had the technology to make it easier to contact them, and this could impact on the generalisability of the study results. However, it did aid recruitment. It was helpful to know someone working in a Saudi school, so that the researcher could contact them even when the research was in the UK. Knowing someone in this regard helped to get a response more quickly and more easily than by contacting the school without a previous introduction. As part of this process the researcher explained the research aims to the school and that this research had been supported by the School of Education at the University of Lincoln and that ethical approval for the approach had been received. It was not anticipated that any harm would occur to the children during this study, in that the design followed the current curriculum and the only change was to the presentation methods used for the materials.

The researcher asked the teachers for their consent to take part in this study. The researcher introduced the research aims to the teachers in terms of evaluating the impact of using technology in their classes. The researcher explained that they would be able to use the text book, this is the current approach to curriculum delivery in Saudi Arabia but that they could use technology as an approach. This open-ended approach would help support the researcher in assessing the impact of using technology in the classes, as well as ensuring that the school and the teachers were comfortable with the way that the research was to take place. Any teacher who did not wish to participate in the project was free to withdraw and did not need to provide a reason for doing so. At no time were the teachers coerced into taking part in the study. All participation was voluntary and all teachers completed a voluntary informed consent prior to participation.

The parents or guardians of the children were asked to give their informed consent prior to the researcher undertaking any aspects of the study. In order to support the parents in their decision making, the researcher talked to them in person after they dropped off their children at school in the morning. If that time of day was difficult for the parents, the researcher asked the school to contact them by letter, explaining the purposes and aims of the study in order to obtain parental informed consent. The researcher introduced the aim of the study and discussed how this approach might support their children's learning through the use of technology in English language classes. Any materials used in the language teaching was drawn from reputable websites and sources and was age appropriate. In addition, it was approved by the school and by the English teachers as being part of the English curriculum. The researcher informed the parents at this time that they had the right to withdraw their children from the project at any time without giving a reason for doing so. The parents were provided with contact details for the researcher to ensure that they could communicate with the researcher at any time.

Also, the researcher explained that the research had the support of the school and had received ethical approval from the University of Lincoln. In addition, the parents were assured that no harm would come to their children during the study, and that their children must be happy to participate in order for them to be allowed to take part. The researcher asked the children prior to undertaking any activities and only worked with those children who were happy to participate. In the event that any child appeared to be uncomfortable during the research project, they were withdrawn from the study. However, all the children participated, and they were happy with what the researcher was doing as part of the study. The children's identity was never to be used in the publication of any data collected during this study. The children's data was labelled

using a random code as was the names of the teachers who participated in the study. In addition, the children's data were kept secure and there was complete confidentiality and anonymity.

The British Educational Research Association (BERA) mentioned that children's "…research must explore alternative ways in which they can be enabled to make authentic responses" (BERA, 2011, p. 5). The researcher asked the children if they were happy for the researcher to teach them and to observe them. The researcher observed them and carried out assessments to see the impact of the use of technology in the English language classes. This was achieved by randomly labelling participant's information with a code. To ensure privacy and confidentiality, the raw data collected from participant's was discarded as soon as it had been coded and analysed. Before being coded, the research instruments containing raw data were stored in a securely locked cabinet or password protected computer.

3.13 Summary

This chapter has explained the design and development of the research project. The chapter details philosophical approaches, research approaches, data collection, data analysis and other elements of the methodology applied in the study. The chapter closed by discussing the validity and reliability, researcher positionality and ethical considerations of the researcher's project. The following chapter will outline the results of the study. First, the researcher will present the specific objectives of the study before presenting the study findings.

4.0 Results

4.1 Introduction

This chapter outlines the results of the questionnaires, interviews, observations, and assessment results from the experimental research. As previously noted, the study had three specific objectives: Firstly, it aimed to identify the information technologies that English language teachers in Saudi public primary schools use as part of their language teaching strategies, and what they use these technologies for. Secondly, it aimed to investigate the impact of information technology when used as part of language learning strategy on the learning of English language by primary school students in Saudi Arabia. Lastly, it aimed to identify the barriers and challenges to the use of technology in the teaching and learning of English language in public primary schools in Saudi Arabia. Against this background, this chapter presents the findings of the study in order of the research objectives.

4.1 Information Technologies used by English language teachers in Saudi Public Primary schools

4.1.1 Information Technologies Used in Teaching and Learning of English Language

Data from the questionnaires, interviews and observation were widely in agreement about the use of information technology in teaching and learning. The results revealed that information technology was applied in teaching and learning of English language in the classroom, albeit to different extents and for different purposes. In this regard, Teacher R noted that the school's technology facilities consisted of computers. As such, the kind of technology that she used most while teaching English in class was

computers. On the other hand, Teacher N noted that the kind of technology in the school included iPads, YouTube, and games. However, when the researcher attended the classes of Teacher N, there were no iPads available in the school classrooms that belonged to the school. Instead, the teacher brought her personal items such as her iPad and computer into the classroom in order to use YouTube and games.

Both teachers stated that in their lessons they applied technology in order to teach their students. Teacher N stated that she often used YouTube in her lessons, which she accessed using an iPad or computer. Teacher R responded by stating:

"*I use the new method which is called active education, which is about dividing the class into groups and dealing with the students depending on their weaknesses and strengths, asking the students to be more creative, and the students ask the teacher's questions, which means the students have a safe and comfortable lesson and environment in the classroom to allow them to think and to ask the teacher if they have misunderstood*".

4.1.2 Extent of Use of Information Technologies in English Language Teaching

In all of the lessons taught by Teacher R, a computer and projector were used most of the time. It is only on two occasions that the teacher relied on other types of technology as Internet, YouTube and Bluetooth in addition to the computer and projector. It was usual for the lesson to begin with a greeting by the teacher as she switched on a laptop and projector which was permanently installed in the classroom. She then proceeded to open the course book which would be displayed on the whiteboard via the projector. Technological devices such as the computer and projector were most often used when

displaying the course book and other course material connected with the particular class as evidenced by the teacher's words and instructions on different occasions.

Out of the seven lessons taught by Teacher N which were observed, two did not involve the usage of one or more technologies. In one lesson on fruits and vegetables involving six grade six students, no technology was used, the teacher relying solely on the whiteboard and flashcards to teach. The same situation took place during a lesson taught to six grade four students on the topic of colours. The technology commonly used during the other lessons included a mobile phone, iPad, computer, YouTube and the Internet. The teacher used technology to varying extents in different lessons; sometimes throughout the lesson and sometimes to a limited extent depending on the goal she wished to achieve.

Teacher N stated that she frequently used YouTube when teaching English in her lessons. Teacher R responded by stating that "*I often use a computer and projector to teach*". Both teachers stated that they felt the computer most effectively supported the learning of English in their classes, and was liked by the students. Teacher R in this regard responded by saying:

"*I think the computer really helps my students learn. Also, sometimes I use an iPod or mp3 player, which really interests the children; they seem to like every technological device they come across*".

On the question of whether the teachers liked using a different technology in class while teaching English, Teacher R noted that she liked using iPads, smart boards, YouTube and games; *"because its helps me while teaching and the new generation likes to be*

taught using such technologies, which help them understand better". Teacher N also noted that she liked using iPads and smart boards while teaching English.

While Teacher N noted that she used an iPad most of the time, she said that she never tested her students using technology. Teacher R, on the other hand, commonly used the projector, but similarly did not use technology to test her students. Both teachers believed that their students did not use technology to complete their assignments while at home. Furthermore, they did not encourage them in any way to use technological devices in completing their assigned work. While Teacher N felt that YouTube could support students' learning, Teacher R felt that the computer and the Internet were well suited to supporting students' learning. She said:

"*I believe the computer can be very useful in supporting students' learning...and now that the world has become a global village, I strongly believe the Internet will be an indispensable tool for learning in a modern school*".

4.1.3 Purposes and Uses of Information Technologies in English Language Learning

4.1.3.1 Facilitating Learning Activities

Teacher R strongly agreed that she did encourage students to use technology in learning English, as did Teacher N. The teachers' responses showed that they encouraged the students to use technology to learn English. Teacher N stated, "It is vital for the school to invest in various kinds of technology as this will improve the students' understanding of the English language. As a teacher, I encourage my students to use technology to learn". According to Teacher N, this ensured that the students learned English even when they are not in class, thus improving their mastery of the English language.

Teacher R stated that she did encourage students to do physical activities to learn new words and games, while Teacher N was not sure whether she encouraged students to learn new words and games.

Teacher R was unsure whether the course textbook was the main source used during her teaching. However, the researcher found from the observations of classes that the course book was the main resource used in the main English classes. Teacher N was also not sure whether a textbook was the main source of teaching. Teacher R strongly agreed that English is essentially learned through technology. Teacher N disagreed that English is essentially learned through technology. Teacher R agreed that technology was the best way to learn English and Teacher N strongly believed the same.

The questionnaire probed the most useful strategies for learning English when using technology. The result can be found in the table 3.

Table 3: The most useful strategies for learning English when using technology

Teacher (R)	Teacher (N)
Games, YouTube, and the smart board.	Learning through playing

According to Teacher N, teachers made use of IT in activities such as singing and competitions. She further stated that in schools, teachers do not apply English-learning strategies that use technology. Her school, however, encouraged the use of technology such as a projector and computer, although both of these forms of technology were owned by the teachers. According to Teacher R, teachers engage their students in course book reading using technology, but the teachers did not apply learning strategies that rely on technology while teaching.

4.1.3.2 Display of Course Material and Content

It was evident from the observation of Teacher R's lessons that several types of technology were used in the process of teaching. The technologies applied proved to be adequately versatile and essential in the process of teaching different lessons and topics. The computer and projector were applied during lessons on the past tense, festivals, human face, colours, vegetables and fruits, time, and work. Teacher N's lessons similarly benefitted from the versatility of the technological devices used during the lessons. Teacher N used YouTube, the Internet and mobile phone when teaching her classes on topics such as time, work, colours, vegetables and fruits.

At the beginning of an English lesson on toys and games for grade four students, Teacher R, while preparing her students for a review of the previous lesson stated: "*open your notebooks and look at the answers to check your homework. Pay attention and look at the questions on the whiteboard. Let us go through the work together, we learnt about "where is" last time do you remember?....".* Although most of the students did not respond to the question, a few of them agreed by saying: "*Yes*". Similarly, when assigning homework to grade six students in their lesson on past tenses, the teacher said to the students: "*Look at the exercise on the board. Write down the questions in your notebooks and finish the task when you get home*". From the two statements, while there is no mention of projector or computer, it was observed that the images on the whiteboard originated from the teacher's laptop and were projected onto the board with the help of the projector. In these cases, the teacher used technology to introduce questions, assignments, and provide answers to students.

On several occasions, the projector was used to display course content such as reading passages or pictures used during Teacher R's lesson. This happened for instance during

the lesson on past tense taught to grade-six students and the lesson entitled "*At work*", taught to grade five students. In the latter case, the projector displayed different people at work including a farmer, a teacher, and a police officer. The teacher instructed the students to participate in identifying members of different professions saying: "*Look at the pictures on the board, what is the first person doing?....*" Based on the pictures displayed, the students were required to match the person in the picture with a profession. In another case, grade five students relied on the projector to read the important festival in the Saudi Arabia. Based on this task, the students learnt new vocabulary items such as "festival" and "celebration" together with their meanings.

Meanwhile, in Teacher N's lessons, technology devices such as computer and projector were not used to display the course book to the students. Instead, the teacher gave the students lessons in accordance with their weaknesses and strengths and did not follow the course book. The Teacher N, however, did use the board to write during the lesson and relied on her mobile phone, the Internet and YouTube to present materials which was meant to aid student learning.

4.1.3.3 Teaching New skills

The importance of technology as a tool for teaching was demonstrated in several of Teacher N's lessons. While teaching grade five students on the topic of time, Teacher N relied on her personal phone to open a YouTube webpage and played the "Months of the Year" song: "*These are the months of the year. There are 12 months in a year, we'll sing it more than once and we'll sing it loud enough for all to hear. Say January (January), February (February), March (March)....*" During the same lesson, the teacher relied on her phone, the Internet, and YouTube to teach the students how to pronounce words with "th", "sh", "ch" and "wh". Showing a lot of interest and

displaying a lot of laughs and smiles, the students listened to a story to learn how to pronounce the diagraphs in words such as “shop”, “she”, “share” “chain” “cheese” “church”, “what” “when”, why”, “who”, “think” “thumb” “this” and “that”.

In separate grade five and grade four lessons, the teacher used her computer to teach students about the English alphabet with the help of the “Alphabet Song”. The students visibly enjoyed singing “*A for Apple A for ant, A-A-A, B for bat, B for ball....*” and watching animations associated with the objects mentioned. The students learnt to sing the alphabet song and consistently relied on it to acquire reading skills. However, it was evident that writing the letters of the alphabet posed a great challenge to the students even after the lesson.

4.1.3.4 Improving Areas of Weakness

To improve her learners’ weaknesses, Teacher N stated that she used an iPad and YouTube. She stated: “*I sometimes use YouTube to help my students improve on their areas of weakness. To access YouTube, I use my iPad*”. Teacher R, however, stated in the same regard that she encouraged her students to watch English TV channels and use some apps. In addition, Teacher R had not tried to create anything using technology to help her students in their weak areas. She stated:

“*No, not at all. I don’t know how to create a website or anything like an app. I think that needs someone with advanced knowledge in computers*”.

The two teachers provided different responses regarding the technological resources that teachers depended on to improve their students’ weaknesses. While Teacher N mentioned YouTube, noting that sometimes students used this technology at home, Teacher R noted that teachers used CDs, further explaining that students’ use of CDs

or any kind of technology at home greatly depended on their weaknesses. Technologies such as YouTube depend on the Internet to work. The use of YouTube for the purposes of teaching and learning, as stated by the teachers, demonstrates the use of the Internet in the classroom environment.

4.1.3.5 Non-use of Technology in Completing Homework

Teacher R assigned students homework on several occasions. When familiarising the students with the assignment to be done, the teacher greatly relied on the projector. The students were expected to copy the questions on their notebooks and finish the task once they got home. While the teacher relied on technology to assign work, it was evident that there was no requirement for the students to use any kind of technology at home in order to complete their homework assignment. In addition, she did not make any attempts to encourage the students to use any kind of technology which would help them learn English or complete their assignments. Teacher R's instructions to grade five students with regard to an assignment on the topic of "capitals, months and seasons" were the following. The teacher stated "*For your homework, do the task on page…which you can see on the board. What is the first month of the year, can somebody tell me?.... write the answer in your notebook*".

The same situation was replicated in Teacher R's lesson entitled "At Work", where students were assigned homework from the course book displayed on the whiteboard. The teacher asked the students to, "*do the task from the board for homework by matching the name of a person with what he or she does, like we had done in the example*".

On her part, Teacher N constantly encouraged her students by saying, "*when you go home, do your homework. Tell your parents you want to watch English TV, so you can*

learn more English". In this regard, the teacher encouraged her students to learn English by relying on technological appliances such as television. However, the teacher did not require the students to use any information technology to help them complete their homework. It was often the case that the review of her students' homework was completed at the beginning of the lesson. The homework was in all cases completed by the students in their notebooks.

Both teachers stated that if they set homework that require technology, many students would not finish their homework as most of them do not know how to use the technologies. Teacher R held the opinion that including technology always affects the ability of students to complete their homework, while Teacher N thought that including technology only sometimes affected the ability of the students to complete their homework. These answers suggest that although there is a place for information technology in homework tasks, the consistency of applying it could not be guaranteed.

4.2 Impact of information technology on the learning of English language by Saudi Public primary School Students

There was agreement among the teachers that the use of information technology can positively impact English language learning. Both teachers agreed that information technology could be used to overcome the weaknesses and support the strengths of students in learning English. Teacher R stated that she taught students using any kind of technology conveniently available to her. Teacher R strongly agreed to the fact that she used any kind of technology while teaching students the English language. Teacher R noted that she engaged students in games as a way of enhancing their learning and enjoyment. In this regard, she stated: "*Yes, through playing games and competitions*".

On her part, Teacher N noted that YouTube and a smartboard contributed to students' English language learning.

While Teacher R acknowledged that her students may not use technologies at home to enhance their learnings, she believes it would be a powerful tool for assisting their learning. Teacher R's choice of words 'global village' emphasized the advantage children who have access to the internet enjoy as it is beneficial to their learning, especially in Saudi Arabia where English is not a native language. On being asked to expound on what she meant by "global village", the teacher explained that in simple terms, it meant "advancements in communication technology had made the world shrink". Evident from the teacher's remarks was that the internet was beneficial for the students as they learnt English. Teacher R also agreed that she encouraged learners to learn English through technology at home, whereas Teacher N was not sure whether she encouraged learners to learn English through the use of technology at home. Considering the questionnaire responses from both teachers, it was evident that both teachers understood the benefits of technology on English Language learning, but had concerns about the consistency of using technology in their classrooms and using it for the setting of homework or additional exercises.

The impact of using information technology was evident on several occasions in Teacher R's lessons. To support learning, Teacher R commonly used the projector during her lessons. On two occasions, the combined lesson taught by Teacher R brought together three classes, grades four, five and six. Appreciating the benefits of technology, the teacher noted that: "*teaching such a big class without the projector would be a real nightmare*". Indeed, managing the 40 plus students without it would not be easy at all. The projector attracts the students' attention and keeps them focused

on the board. It is obvious from the teacher's comment that the use of technology in class played a great role in maintaining her students' interest in learning as well as helping the teacher in classroom management.

The words spoken by the Teacher R were confirmed in practice as the grade five students were disciplined and attentive during the teacher's lessons. In addition to the computer and projector which Teacher R mostly used during her lessons, the teacher made an attempt to use YouTube and a Bluetooth speaker during a grade four lesson on the topic "My Face". Although the teacher had difficulty making the technology and all the connections work properly, the final outcome had a positive influence on the students. The students were visibly excited from the onset and actively engaged in class activities as they seemed to enjoy seeing and using these technologies. Furthermore, they smiled, laughed and in general, expressed their happiness as they joined in singing and imitating the movements from the YouTube video.

Technology was a prominent tool for motivating and rewarding students also during Teacher R's English lessons. The teacher often engaged her students in group and individual activities. Those who performed well were rewarded by coloured stars made of cardboard, verbally, or through the applause from the class. Moreover, students sometimes gained motivation and acknowledgement by being allowed to go to the front of the class and write on the whiteboard where they stood in the light of the projector. This was particularly the case during a grade four lesson entitled "My Face" when students raised their hands and attracted the teacher's attention by shouting "me me", in order to be selected and be able to sing together with the YouTube video in front of the class or to write on the whiteboard.

Similarly, the use of information technology in Teacher R's lessons proved to be a source of excitement, happiness and motivation for students. Whenever the teacher opened YouTube videos and songs from a computer to teach, the students became more active, focused on learning, and interested. As opposed to the happiness and excitement grade five students exhibited while learning the alphabet from YouTube videos, the lesson on vegetables and fruits which did not involve any technology appeared relatively dull, with little engagement on the part of the students. At the end of the grade four lesson on the alphabet in which the students were engaged in a YouTube video: "Lettuce, carrots, celery .....", the students using gestures and smiles and by repeating "sing sing" urged the teacher to replay the video. This was a strong indication that they enjoyed learning through singing and watching the YouTube video. Information technologies such as YouTube, the Internet and mobile phones also served to motivate students to work faster during Teacher N's lesson. This fact is evident in a grade five lesson on fruits and vegetables. Having introduced the topic by writing on the board and translating some words from Arabic into English for a certain amount of time, the teacher decided to support the students' interest by showing them YouTube videos. After replaying the video a couple of times, the teacher encouraged the excited students to join in singing "Lettuce, carrots, celery .....". Once the singing was over, the teacher continued to teach and assigned the students work to do. Minutes later, the teacher engaged the students in a brief conversation:

Teacher N: Did you enjoy the song?

Students: Yeees!!

Teacher N: Do you want to sing again?

Students: Yeees!!

Teacher N: Ok, then, we will sing again but first you have to finish your work.

The teacher's conversation with the students after assigning them work was evidently aimed at motivating them to concentrate on their writing assignment. As a result of the teacher's promise to replay the video and engage the students in singing, the students worked faster to complete their assignments and were rewarded with another brief YouTube and singing session.

There was a difference between the two classes going by the researcher's observation. In Teacher N's class, the students seemed happy and excited to learn English. As compared with Teacher N's class, Teacher R's students did not seem to be exited during their English lessons. Most of the students from the main English class and the extra English class both expressed their liking to use IT at home to learn English.

4.2.1 Impact of IT on Student English language Test Performance

The results of the experiment (assessment) revealed that in grade 4A, 25 (58%) out of 43 students (the class in which the usual teaching method was used) scored Excellent grade in the English test. The remaining 18 (41%) students in the same class scored Very Good grade, with no student having a Good or Fail grade. In grade 4B where technology (iPad) was used to teach, 31 (72%) out of the 43 students in the class achieved the Excellent grade while the rest 12 (27%) of the students achieved Very Good grade. No student got a Good or Fail grade as evidenced (Figure 2).

Table 4: Grade 4A Student Scores (Traditional Teaching Methods)

Students	Percentage
Excellent 25	58%
Very good 18	41%
Good 0	0%
Failed 0	0%

Table 5: Grade 4B Student Scores (Technology (iPad) used in teaching)

Students	Percentage
Excellent 31	72%
Very good 12	27%
Good 0	0%
Failed 0	0%

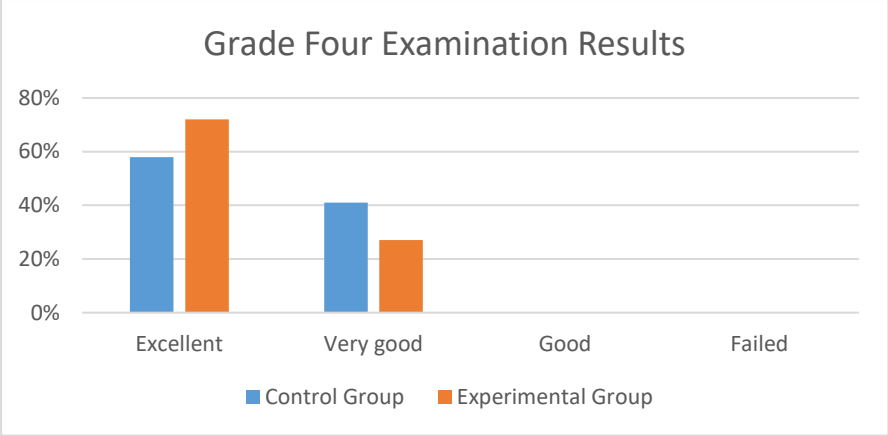

Figure 2: Summary of the test results as scored by grade 4A (the control group) and grade 4B (the experimental group) students.

The students were in the same grade and were taught based on the same curriculum, allowing the researcher to make comparisons easily. These results indicate that the use of an iPad supports learning.

In grade 5A, in which the traditional method of teaching was used, eight students out of 41 (20% of the class) obtained an Excellent grade in the English test. Twenty four students obtained a Very Good grade, accounting for 59% of the class. Eight students were graded as Good, accounting for 20% of the class while, student (2%) was graded Fail. In grade 5B, in which technology was applied in teaching in the form of computers, 19 (48%) out of 40 students were given an Excellent grade. Seventeen students (43%) in the same class achieved a Very Good grade, and 4 achieved a Good grade (10%). None of the students in the class was given a Fail grade (

Figure 3). Tables 8 and 9 present a summary of the scores attained by students in the two grade five streams.

Table 6: Grade Five A (Traditional methods)

Students	Percentage
Excellent 8	20%
Very good 24	59%
Good 8	20%
Failed 1	2%

Table 7: Grade Five B (Computer)

Students	Percentage
Excellent 19	48%
Very good 17	43%
Good 4	10%
Failed 0	0%

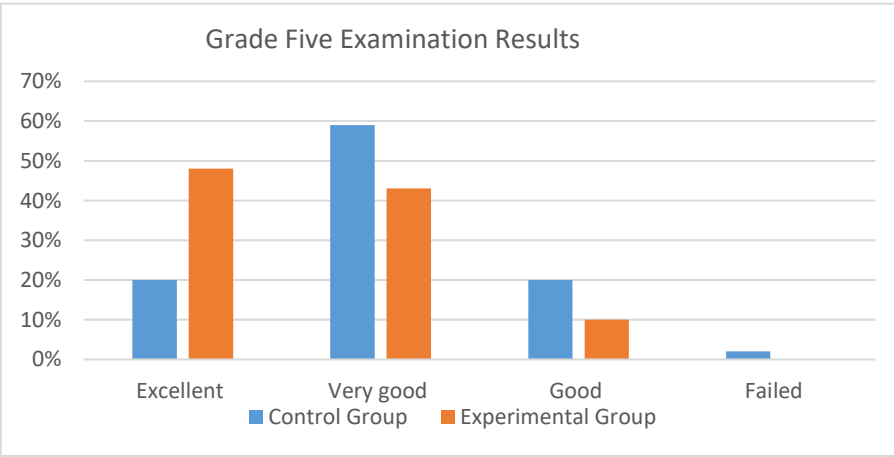

Figure 3: Summary of the test results for grade 5A (the control group) and grade 5B (the experimental group).

The students were in the same grade and were taught based on the same curriculum, which made comparisons easy. These results suggest that the use of computers appear to support learning in some children. However, it appears that a much higher proportion passed the exam with an Excellent grade when using a computer to support their learning. In addition, there no students in the experimental group failed.

In grade 6A where the traditional method of teaching was applied, 17 (41%) out of the 41 students got Excellent grade in the English test. Those who achieved Very Good and Good grades were 22 (54%) and 2 (5%) respectively. No student received a fail grade in the test. On the other hand, 19 students (46%) out of 41 students in grade 6B, in which technology was applied in teaching (Projector), got Excellent grade. Those who got Very Good grade were 22, representing 54% of the class population. None of the students in the class got Good or Fail grade as evidenced by (Figure 4). Tables 10 and 11 present scores achieved by Grade six students.

Table 8: Grade six A (Traditional methods)

Students	Percentage
Excellent 17	41%
Very good 22	54%
Good 2	5%
Failed 0	0%

Table 9: grade six B (Projector)

Students	Percentage
Excellent 19	46%
Very good 22	54%
Good 0	0%
Failed 0	0%

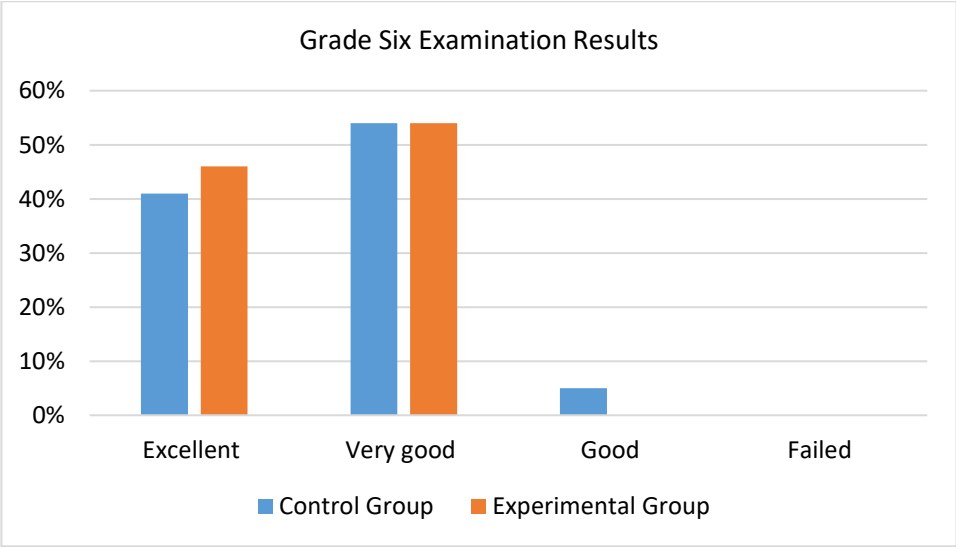

Figure 4: Summary of the results of the test for grade 6A (the control group) and grade 6B (the experimental group).

It appears that a higher proportion of children passed the exam with an Excellent grade when using projector to support their learning. In each group, fifty four percent of the participants obtained Very Good grade. Also, there were no Good or Fail students in

this experimental group. This possibly indicates that the use of the projector improved the students' achievement in the experimental group in that there were more Excellent and Good results. These results suggest that the use of a projector supports learning in some children.

It is evident from the test results that in each of the three grades, the experimental group showed better performance compared to the control group. On average, the experimental group had 16% higher number of students with excellent grades than the control group. The experimental groups also generally had a lower number of students with Fail and Good grades compared to the control groups in each grade as evidenced by (Figure 5).

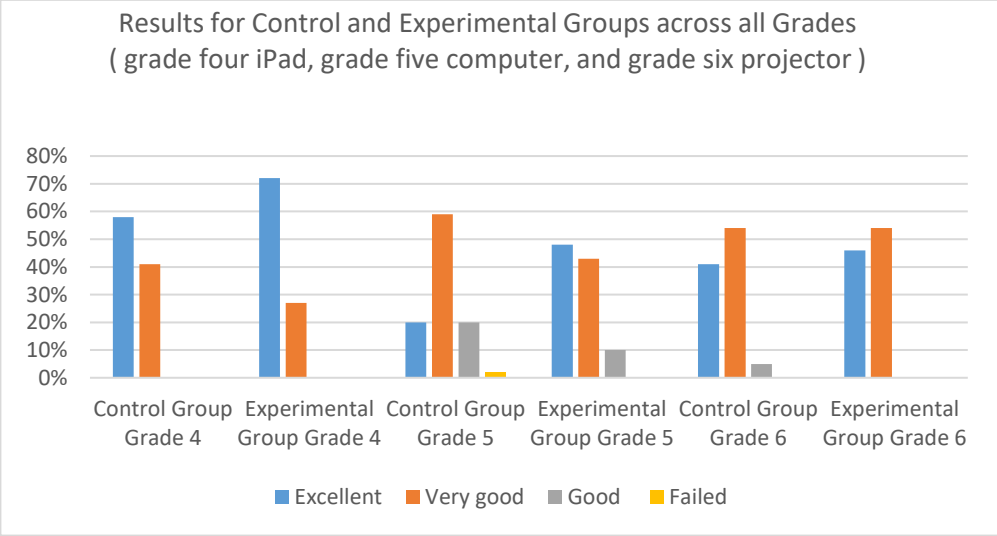

Figure 5: Results for Control and Experimental Groups across all Grades

Figure 5 shows the differences between the control and experimental groups across all the grades. For example, the experimental groups in all grades had a higher number of students in the Excellent category, and no students obtained a Fail grade. It appears that

in all cases, regardless of the type of technology used, its inclusion had a positive impact on learning compared to that of traditional classes (i.e. the control groups).

In the control groups, the researcher made observations of the methods the teachers used in teaching. These methods were employed to match the methods already in place. When comparing this technique to the experimental groups, it lacked engagement. For example, although projectors are used in a Saudi setting, they are not used interactively. The teacher used the projector to project books and then used other tools such as iPads and computers for activities to further engage the students in the experimental groups. Teaching without using technology and merely following the curriculum was seen to be rigid and attracted little engagement.

4.3 Barriers and Challenges Faced in Teaching English Language using Technology

The researcher made a number of findings on the barriers and challenges that characterised the lessons of both Teacher R and Teacher N. In the following sections, these challenges will be presented and discussed.

4.3.1 High student population

Teacher R noted that it was very difficult to use personal technology devices for the whole class as the number of students in her class was high. Given the high student population and extensive syllabus to be covered within a short time, Teacher R had little opportunity to ensure students understood the concepts taught. It was evident that Teacher R heavily relied on the course book to prepare for and conduct her lessons. In almost all the lessons taught by Teacher R, learning was done through group work activities, the class was therefore divided into several groups based on seating

arrangements, each group being assigned a unique colour. In addition to completing tasks as groups, the teacher often assigned the students exercises to be completed individually, usually after completing group work activities, or, occasionally, as homework. The large numbers of students in each class, made it difficult for Teacher R to bring an iPad or computer for teaching. This led the teacher to project through the computer in order to present the course book to the whole class.

By contrast, all of Teacher N's lessons featured few students (5-21students). Because of the small number of students who attended the classes, the lessons had more flexibility and the teacher more opportunity to help students understand the concepts and ideas presented. Students were mostly engaged in individual work, as opposed to working in groups as was often the case in the main classes. Teacher N's lessons, which were a follow-up to the main lessons taught by Teacher R, were not strictly based on the course book. As her class was smaller, she could use the technology while teaching English to the whole class easily.

The researcher observed that each class taught by Teacher R had a student population of between 40 and 50. In most of the grades four, five and six, the teacher had large groups to work with around 44 students. There are, however, cases in which the lessons featured much less students due to absenteeism. Evidently, the high student population and the low teacher to student ratio informed the sitting arrangements typically groups of students were sitting around a table and there was a bias towards group work activities in Teacher R's lessons. Because of the high student population in teacher R's class, many students remained inactive and disengaged during lessons. In consideration of these circumstances, it emerged that student overpopulation and the low teacher-student ratio was one of the main challenges in Teacher R's lessons.

Due to the huge number of students in the class Teacher R's and sitting arrangement, it was observed that some students copied from one another while doing individual work or during tests. This was the case in a grade four lesson on toys and games at the end of which the students were asked to complete sentences beginning with "I have got" based on pictures from their course book. Aware that some students were copying from their peers, the teacher warned against coping on several occasions warned against copying. At one point she stated, "*Don't copy from your friends. If I see you copying, I will give you a big zero*". In spite of the warnings, some students went on to discreetly copy from their peers. If the teachers assessed the students, with this large class size, the students could easily cheat and copy from each other.

4.3.2 Teacher-centred learning

It was observed that in most of Teacher R's lessons, focus was on the teacher. Most of the time, the teacher talked and monitored the students while the students listened. The teacher made most decisions such as choosing the topic of study and how and when to evaluate the students. Except when instructed to engage in group activities, students were expected to remain quiet or work individually. It was evident that during teaching, the teacher focused more on language structures and forms and paid little on how to use language in typical situations. In this regard, learning in Teacher N's lessons was less teacher-centred as opposed to Teacher R's. Because of the teacher-centred approach to learning, in several cases, students found the experience of learning English to be unexciting and they often asked the teacher to provide translations of the words or concepts they did not understand.

The students, however, tended to be more active when asked by the teacher to engage in group work or group activities. Out of the 24 lessons of Teacher R observed, four

involved students in making or engaging in conversations as guided by the course book. During these particular lessons, the students were evidently more active, excited and ready to learn. The students also had the opportunity to learn from one another, evaluate their own performances, and learn how to apply language in typical situations. Teacher N's lesson was also characterised by the teacher-centred approach but less than the other teacher. During the lessons, the teacher gave instructions and taught while the students mostly listened. The students, however, enjoyed more opportunity to interact with and use technologies such as the teacher's phone, computer and YouTube videos. As a result, the students found the lessons to be more exciting than their main lessons. It was also observed that in both Teacher R and Teacher N's lesson, no effort was made to make the students aware of the importance of studying English. The teacher simply introduced their lessons, reviewed previous work and then proceeded to begin the topic of the day. Perhaps by making students understand the benefit of the content they are learning about, their interest in learning would be increased.

The researcher observed that in all the EFL lessons, Teacher R focused on using the projector to teach her students. Furthermore, the students had little room to practice what they had learnt during the lesson, such as through practical exercises. In this regard, the teachers failed to see the needs of different types of learners for example: visual, audio, and kinaesthetic. The use of the projector mostly appealed to visual learners leaving other kinds of learners disadvantaged. At the same time, it was evident that the students were not subjected to listening tasks possibly as a result of the lack of audio CDs which are supposed to compliment tasks presented in the course book. This in effect meant that students had little opportunity to improve their listening skills.

4.3.3 Lack of IT Resources

Teacher R held the view that the school did not support or encourage the teachers to use technology because it was not readily available in the school for teachers to use unless the teachers brought their personal technology devices. She explained:

"*Schools lack technological devices, which means teachers often can't teach using the devices. Another challenge is that the number of lessons assigned for teaching and learning English is so small; the hours of contact should be increased if proper learning is to take place. In addition, most classes have huge numbers of students in them, as a result teaching and learning is extremely difficult*".

Teacher R believed that if more information technologies were provided by the school and could be used every day, the students would have a better knowledge in using it, and therefore she believed this would be more beneficial in her lessons when using it to teach English.

It was observed that in all her lessons, the teacher R relied on her personal computer and projector to display the course book. To access more learning resources, she brought her personal resources or resources borrowed from other teachers. In a grade four lesson on the topic "My Face" the teacher used a borrowed Bluetooth speaker and smart phone to teach. Through the phone, the teacher managed to access the Internet and play YouTube videos.

4.3.4 Lack of Knowledge on How to use Technologies

Both teachers noted that they had not received formal training on how to use technology when teaching English. However, Teacher R noted that she had tried to take technology

training in order to support her while teaching English. Teacher R had obtained training on how to use PowerPoint and smart boards. As such, Teacher R was able to use technologies such as tablets, laptops, smart boards, YouTube, Internet and Powerpoint. However, in her written response, she claimed that *"in the school there are no technology facilities available in the classes"*. As such, the teacher had spent time training but was not able to use her skills in the classroom. Teacher R noted that learners prefer using iPads, which was also supported by additional comments that noted that learners prefer iPads and games. On the other hand, Teacher N noted that she had not tried to obtain such training. As such, she had educated herself, which enabled her to use different kinds of technology to teach English in class.

During one lesson, Teacher R got frustrated in setting up her lesson to display video: "*what is the problem now, can't this video be properly displayed?..... oh, no sound!*". Due to lack of technical knowledge and experience on how to set up YouTube and the Bluetooth speaker, the teacher spent a lot of time trying to make the technologies work as required, therefore reducing much needed lesson time.

While both teachers proved to be active users of different technologies, their students, on the other hand, were to a great extent, passive users of the technologies mentioned. The students were mostly not involved in operating, controlling or actively using the devices, but only observed or listened to their outputs and reacted to them via by singing and learning from them also, the students had no opportunity to use technologies such as computers and tablets in completing their homework at home.

4.3.5 Wide Curriculum and Time Constraints

Teacher R contended that the two lessons a week assigned was inadequate for covering such a wide curriculum. She stated that, if she could finish the curriculum early, she could teach her students different skills including reading, listening and speaking. Teacher R was restricted to following the course book and finishing it by the end of the term. With a large number of the students and only a few lessons a week, Teacher R was forced to try to use the kind of technology that could be used for the whole class such as a computer through the projector.

Both teachers followed the course book without making any changes to accommodate the weaknesses or strengths of the students. The curriculum restricted Teacher R from making any changes and regulation mean that the teacher must follow the course book all of the time. In addition the teacher was expected to finish the course book by the end of the term. The fact that Teacher R was constrained by time was evident in the teacher's apparent rush in teaching the wide syllabus topics. The teacher was required to complete the English curriculum by the end of the term which compelled her to focus on completing the course book, rather than on understanding students' weaknesses and strengths. The course book had several topics to be taught to the students and the classes had a high student populations; this led Teacher R to carry on teaching without considering learners' weaknesses or strengths. On the other hand, Teacher N was sometimes flexible and did not only rely on the course book but took action to aid students' understanding of what was being taught.

4.4 Summary

Overall, this chapter presented the findings of the study. The results indicate that a number of technologies were used in English language teaching and learning in the primary school. The information technologies used in this regard included projector, computer, tablet (iPad), mobile phone, CD, white board, YouTube, Internet, Bluetooth, iPad, and speaker. It emerged that during the main English lessons (Teacher R's lessons) the computer, white board, and projector were the only technologies used. In comparison, Teacher N's (the extra English lessons) lessons made use a wider variety of information technologies including tablet (iPad), mobile phone, white board, YouTube, Internet, Bluetooth, and speaker (by virtue of the fact that YouTube, the iPad, and the laptop produced sound through a speaker. Evident from the findings was information technology devices were used most of the time during both teachers' lessons. The computer (laptop), projector, and whiteboard were use most of the time in the main English classes while the iPad, Internet, and YouTube were used most of the time in Teacher N's lessons. The study found that information technologies and IT devices were used for different purposes during the English language lessons.

In Teacher R's class, the IT devices and technologies were mainly used to display course material and content. In this regard, technology was used to display contents of the course book, pictures, and games. The technologies was also used to facilitate learning activities. Furthermore, they were used to introduce questions, assignments, and provide answers to students. Technology was also used to help learners improve on their areas of weakness and to teach areas such as pronunciation.

The results of the study showed that both Teacher R and Teacher N appreciated the importance of information technology in teaching and learning of English language.

Information technology had several notable impacts on English language teaching and learning. Both teachers appreciated that information technology positively contributed to learning. IT helped attract and maintain students' attention, made learning interesting and exciting, motivated students to learn. In comparison to Teacher R's lessons that mostly relied on traditional technologies, Teacher N's lessons which applied a wider range of IT devices proved to be more exciting, attention grabbing, and motivating for learners. The results of the experiment indicated that teaching using information technologies attracted better results than teaching without the use of information technologies. The experimental group that was taught using a wide range of information technologies generally had better scores and grades in English language tests.

Several barriers and challenges come in the way of teaching and learning English using information technology. One of these challenges was high student population (and consequently high student to teacher ratio) in a class, which rendered the use of certain technologies and technological devices either difficult or impractical. Another challenge relates to the application of teacher-centred learning in which case, students are not given adequate opportunity to use the available technologies and are rather expected to rather passive role in class. This in effect makes learning boring and leads to loss of interest and engagement by students. The lack of necessary IT resources, equipment and technologies emerged as another major challenge with respect to teaching English language using technology. Evidently, the school only had only a whiteboard, projector, a computer and therefore lacked other technologies. This forced the teachers to rely on their personal devices such as iPad, laptop, and mobile phone for teaching. Another major barrier to the use of IT in teaching English language was the lack of knowledge on how to use many of these technologies. The findings show that the teachers were not trained on IT and did not have experience in using some

technologies. A wide curriculum coupled with time constraints also emerged as a major challenge to the use of IT in teaching English language especially in the main class. This was especially because the teacher was expected to complete the extensive curriculum within the time given.

The next chapter discusses the findings of the study. The reader can expect to find a discussion of the key findings of the study with a focus on the specific research questions and a discussion of the limitations of the study.

5.0 Discussion

5.1 Introduction

This chapter discusses the findings of the study in light of literature presented in the introduction and literature review. The chapter succinctly presents the key findings before discussing each of these findings. The discussion chapter is divided into several sections which revolve around the specific objectives.

5.2 Information Technologies Used in Teaching and Learning of English Language and Their Uses

The findings of the study revealed that information technology was regularly used in the teaching and learning of English language in the classrooms. The study found that IT was used by both teachers almost in all the lessons. According to Cambridge International (2018), in many developed countries, IT is regularly and widely used in teaching primary school children. Alshmrany and Wilkinson (2014) however notes that in developing countries, IT is not as widely or as regularly applied in teaching and learning. The study by Cambridge International (2018) revealed that between 14% and 16.6% of college and university students in Saudi Arabia noted that they use a smart phone or tablet to aid their learning in class respectively. The same study further revealed that close to half of the students surveyed regularly used a computer during their lessons and roughly half of the teachers in the country used an interactive board during their lessons. The Cambridge International study findings reveal the use of IT in tertiary institutions in Saudi Arabia and give a hint that technology is regularly used for teaching and learning in these institutions. Although technology may be regularly used for teaching and learning in colleges and universities in Saudi Arabia, this may not be

the case in primary schools. So far, there is no published information that reveals how regularly IT is used in teaching and learning in Saudi Primary schools. By extension, there is no published information that reveals how regularly IT is applied in English language lessons in public primary schools in the country. With little, if any, data published on the level of use of ICT in primary and secondary schools in Saudi Arabia in existence, the finding of this study that IT was regularly applied in teaching English language under study contributes new knowledge and brings to focus a new dimesion that should be further explored.

The study also found that different information technologies were used in different classroom activities. The information technologies that were applied in English language teaching and learning included interactive whiteboard, tablet/ iPad, laptop, projector, smartphone, Internet, Youtube, Bluetooth, projector, and speaker. The finding that different information technologies were used in teaching English language classes is well in line with the findings of several studies. In this regard, Costley (2014) notes that IT plays an important role in life today and finds use in virtually every aspect of life, education included. Nilsen (2001) also states that in a modern world in which focus is increasingly being put on learner achievement, the importance of integrating technology as a tool for teaching and learning is ever more being appreciated. Costley, (2014), Açıkalın, (2009) and Courville (2011) among several other scholars have acknowledged the growing appreciation by educational institutions across the world of the importance of IT in education. Cambridge International Examinations (2015), noted that some of the technologies that are currently used in education include interactive white boards, smart phones, tablets, desktop computers, laptops, Internet, and software applications.

On their part, Eady and Lockyer (2013) mentioned overhead projectors, video cassette players, and computers as some of the technologies applied in teaching language in primary schools. In addition to the technologies cited by Eady and Lockyer (2013), Solano et al. (2018) identified YouTube as an important technology used for teaching and learning in the modern world. Arifah (2014) on the other hand noted that the Internet helps increase the motivation and interest of primary school language learners, implying that the Internet is a technology that can be used as for education. In agreement with Cambridge International Examinations (2015), Beelan (2002), cited the use of the interactive white board in teaching primary school children. Interestingly, the use of Bluetooth as a technology in education has not been cited by the studies reviewed. This perhaps is because Bluetooth is a more recent technology and because it is a technology that is integrated in IT devises and commonly works in the background making it go unnoticed even when it greatly contributes to work, learning, the manipulation of other devices, or the sharing of information. Also, being a recent technology, Bluetooth has perhaps not been widely adopted in education.

The study by Nese, et al. (2015) confirmed the use of white boards in teaching lower grades in a school while that by Celik (2014) confirmed the use of the white board in the teaching of foreign languages, further noting that this kind of technology helps attract students' attention. Huda (2015) also noted that YouTube can be effectively used to teach and learn English as a foreign language. In its findings, Cambridge International (2018) noted that tablets and mobile phones were some of the technologies used by students in their learning. Based on the findings of his study, Abbas (2014) recommended the use of computers in teaching and learning language noting that it helps improve student achievement.

In Saudi Arabia, it is well established that the whiteboard is the fundamental and frequently the only tool available to the teacher in the classroom (Almutairi, 2008). Almutairi (2008) further notes that public primary schools in Saudi Arabia often lack IT tools and in those schools where they are available, they are often non-functional due to a variety of reasons ranging from poor maintenance to lack of knowledge on how they are used. Yet again, Almutairi (2008) notes that while the Ministry of Education is pushing for greater use of information technology in teaching and learning, IT is still not applied in teaching English. According to the National Centre for Technology in Education (2008), in Saudi Arabia, computers and projectors are used as an alternative to whiteboards in classrooms to avoid the need for manual writing. These revelations support the findings of this study to the extent that the white board, projector and computer emerged to be the technologies used for English language teaching and the school lacked (did not own) many of the technologies encountered during the study. Against this background, the finding that several different technologies were applied in teaching English language comes as a surprise and could well indicate the growing adoption of IT in public primary schools in Saudi Arabia generally and in English language teaching specifically.

The study found that the Internet was one of the technologies used in the teaching and learning of English language. The Internet is no doubt one of the technologies that have revolutionised the way people live today and how things are done (Hammond et al., 2014). Without the Internet, it would not be possible to access websites, YouTube, wikis, WhatsApp and many other technologies and IT resources. Thus, the Internet is the backbone of several IT applications, resources, and tools (Ofsted, 2008). Studies such as Nese, et al. (2015) and (Cambridge International Examinations (2015) have emphasized the importance of the Internet in supporting teaching and learning, and

more so in finding information. In developed countries which are also characterised by near 100% mobile and broadband Internet penetration, the Internet finds extensive use in education as students and teachers rely on it to access and share information and resources stored online ((Ministry of Communications and Information Technology, 2017). In Saudi Arabia where mobile and broadband Internet penetration stands at 77% (Ministry of Communications and Information Technology 2017), past evidence indicates that the Internet and related-technologies no use in the teaching of public primary schools classrooms. This perhaps is the case because most public primary schools have no fixed broadband Internet and are ill equipped to exploit the Internet for teaching and learning purposes. The finding by this study that the Internet was used in teaching and learning thus goes against the findings of past studies and brings to attention this evidently new development.

5.2.1 Extent of Use of Information Technologies in English Language Teaching

The study findings revealed that information technology was used most of the time in teaching English language. While a computer, projector and whiteboard were mostly used in teaching English during the main EFL classes, the tablet, Internet and Youtube were mostly used during the extra classes. Even though information technologies were used during most of the lessons, the extent to which they were used varied from lesson to lesson depending on what the teacher was teaching and what she wanted to achieve. Furthermore, the extent to which IT was used to achieve different purposes varied from teacher to teacher. While, for example, one teacher often used IT technologies to display course content the other teacher mostly used these technologies to make learning more interesting.

Very few studies have explored the extent to which IT is used in English language learning. Researcers such as Wardlow (2014) and O'Doud and Aguilar-Roca (2009) have called for the regular use of IT in teaching and learning. According to the study by Cambridge International (2018), close to half of students in Saudi Arabia regularly used a desktop computer and interactive boards in class. According to Almutairi (2008), many Saudi Arabian public primary schools do not have a lot of technology for use in teaching and learning. Almutairi (2008) goes further to note that while the Saudi Arabian government through the ministry of education is pushing for greater use of information technology in education, the adoption of IT in teaching English remains low. Byrom and Bingham (2001) on the other hand noted that in Saudi Arabian public primary schools where the technology is available, it tends not to be functional due to lack of knowledge on how to use them among other reasons.

The findings by the above cited researchers leave a lot of room for speculation with regard to the extent to which technology was used. However, it is clear that in primary schools in Saudi Arabia, white boards and projectors are the most commonly found and used IT devices in classrooms (Almutairi, 2008). With no published information regarding the extent to which IT is used in Saudi Arabia and other countries, this study contributes new knowledge by indicating the variability in the use of IT by teachers depending on factors such as the subject or topic being taught. This clearly is an area that future studies should explore.

5.2.2 Purposes and Uses of Information Technologies in English Language Learning

The study revealed that the information technologies and IT devises applied in the teaching and learning of English served different purposes. For one, information

technologies were used to display or present course material. The study especially found that IT devises were mostly used to display course material and content such as contents of the course book, images, videos, and learning games. The projector, whiteboard, and computer were used together as a system to display the contents of the course book, reading passages, assignments, questions, videos, and answers to questions. The mobile phone and tablet were used to display YouTube videos, pictures, and games.

The finding that IT was used to display learning material or content is well in line with what is already in literature. The use of IT to display information is well established in literature with some of these devises, projectors, for example, made speifically to purform this function. According to Alshmrany and Wilkinson (2014) and Motteram (2013) projectors, computers, mobile phones, tablets and interactive whiteboards are some of the IT devices that are commonly used to display information. Klopfer et al. (2009) note that projectors, used in combination with a computer, may be used to display different content or types of information such as videos, pictures, games, and text in an innovative and organised way. Supporting the use of projectors in education, Hammond et. al. (2014) note that teachers may use a projector in combination with a computer and a whiteboard to display learning material and hence overcome the limitations posed by the small screens of mobile devices and laptops. Supporting the use of whiteboards in whole-class presentation of languages and course material, Ofsted (2008) note that these tools are important in the development of an independent learning environment. With regard to the display of questions and their solutions, Cambridge International Examinations (2015) notes that IT, when used for learning, has the advantage that it can be used to provide feedback both to the teacher and the learner.

In Saudi Arabian schools, projectors and whiteboards are essentially used to present course material with projectors used as an alternative to avoid the need for writing on the board (National Centre for Technology in Education, 2008). The use of mobile phones, tablets, and other information technologies to display learning material in Saudi Arabia has, however, not been highlighted by previous studies. This study, therefore, adds to the body of knowledge by highlighting the use of mobile devices to display learning material in schools in Saudi Arabia.

Secondly, the study found that IT was used to teach new knowledge and skills and help learners improve on their areas of weakness. In this regard, IT found use in teaching letters of the English alphabet and their sounds, new words, pronunciation among other knowledge and skills. It also found use in helping learners overcome their weaknesses in areas such as pronunciation, writing, reading, and speaking. As noted by Alsudais (2017), the Saudi national curriculum targets to develop all language competencies (speaking, listening, writing, and reading) as well as efficient vocabulary and grammar practices. The use of IT as established in this study, therefore, contributed to the achievement of the goals of the Saudi Arabian national curriculum.

The finding that IT was used to help learners acquire new skills and knowledge is in line with the notion by Donaghy (2014) that IT (such as in the form of short video clip from YouTube) can help learners pick up valuable knowledge and skills such as lexical, speaking, pronunciation, spelling, and pronunciation. With regard to language learning, Lin and Yang (2011) also noted that Wiki technology can help students acquire new knowledge and skills. In agreement with the study findings, Tomaszewsk (2012) found that websites can provide young learners with content such as songs, pictures, and videos that can help them acquire new knowledge and skills. Interestingly, none of the

literature reviewed have highlighted the use of IT in improving learners' weaknesses. Against this background, this study brings to focus a hitherto unexplored contribution of IT in education and language learning.

The study also found that IT was used to facilitate learning activities such lesson games, singing, learning vocabulary, and learning competitions. Crosser (2008) holds the view that language learning can be facilitated by engaging learners in different activities and providing them with the necessary resources. The role of technology as a facilitator has been highlighted by Januszewski and Michael (2007) who define technology as the technological tools and media that facilitate or assist the development, communication, and exchange of knowledge. With respect to the role of technology in facilitating learning activities, Alsid and Pathan (2013) note that technology can be used to improve learners' attention when it is used to present learning games. Koretz (2008) on the other hand notes that giving learners the opportunity to engage with or use information technology contributes to student-centred learning. Chartrand (2007) also notes that technology, such as IT, can facilitate innovative learning and can make the educational experience better. With many scholars in support of the notion that IT and technology in general can be used to facilitate learning activities, the findings of this study do not depart from what is already established in literature. Even so, the role of IT in facilitating learning activities generally has not been highlighted by scholars focusing on the Saudi Arabian public primary school setting. As such, this study brings to focus the previously unappreciated role of IT as a facilitator of language learning activities in public primary schools in Saudi Arabia.

The study also found that IT was used to make learning interesting. The Internet, Youtube, mobile phone and tablet played an important role in arousing the interests of

the young English language learners during different lessons. The role played by IT in motivating learning or making learning more interesting has been discussed by many scholars. Alsid and Pathan (2013) and Wardlow (2014), for example, note that IT can help make learning enjoyable and can help improve student engagement in class. This notion is supported by Huda (2015) who found that YouTube created an enjoyable and entertaining atmosphere in the class that motivated the students to learn. Al-Seghayer (2014) also noted that using IT in teaching English as a Foreign Language (EFL) can contribute to the enrichment of the content being taught to students.

The capacity of IT to make teaching and learning interesting has prompted analysts to call for the use of information technology to make English language learning interesting to primary school children in Saudi Arabia. One of the major challenges that hamper English language learning among Saudi Arabian primary school children is the lack of interest in the language. As Shyamlee, (2012) notes, the traditional methods and approaches commonly applied in teaching English in Saudi Arabian schools have played a role in lowering learners' motivation and interest in learning English (Shyamlee, 2012). Consequently, low achievement in English language communication has been blamed on learner's low motivation towards learning the language (Al-Nasser 2015). The findings of this study support the call by several analysts for the increased use of IT in English language teaching and learning in schools in Saudi Arabia.

While IT was found to be used for different purposes in the teaching and learning of English, including issuing homework, the study revealed that this kind of technology was not used by learners to complete their assignments. While the teachers encouraged learners to make use of the information technologies they had access to outside the school environment to aid their English language learning, they did not encourage

learners to use these technologies to aid or complete their homework. This perhaps was because the consistency of use of information technology in completing homework tasks could not be assured. So far, no studies have highlighted or focused on the use of IT devices in aiding the completion of homework especially by primary school children. The finding that IT was not used to aid the completion of English language homework while contributing new knowledge, highlights the need for further investigations to understand why this is the case and how IT devices could help language learners improve their language skills, grammar and vocabulary.

5.3 Impact of IT on the learning of English Language

The study found that information technology had a positive impact on English language learning by contributing to language learning in different ways. Accordingly, information technology helped English language learners overcome their weaknesses, assisted their learning, supported their strengths, and made learning more interesting.

That IT engaged the interests of learners was evident in several occasions during the study. In classes where a smaller variety of information technologies were used and in which IT was mainly used to display course content, learners were found to be less interested in learning compared to lessons in which a wider variety of these technologies were applied and for more uses. Furthermore, in the few lessons in which IT devises were not used, the students appeared dull and less engaged in learning compared to the same teacher's lessons in which IT was used. Apart from increasing their interest and engagement, IT motivated students to perform their tasks faster and perhaps learn faster. Teacher N also used IT as a tool for motivating learners to concentrate and complete their English assignments.

The findings of this study, in relation to the impact of technology on learning, widely agree with many studies and existing literature. Several studies have indeed found that information technology contributes positively to student learning. Miller (2011) found that technologies such as computers helped increase students' interest in learning and their participation in class. Studies such as Açıkalın (2009) and Costley (2014), have demonstrated that when properly implemented, technology had the potential to improve the effectiveness of language teaching. In his study, Costley (2014) found that IT helped improve student engagement during learning and consequently helped enhance their retention of information. Chapelle (2003) similarly found that language learning could be enhanced through the use of technology as a tool for teaching and learning, while Saba (2009) noted that technology can aid learning by encouraging independent learning, providing a better approach to learning, and enhancing learning achievement.

In Saudi Arabia, the use of traditional approachs and methods of teaching have been blamed for contributing to learners' low interest in learning English language (Al-Nasser 2015; Shyamlee, 2012). As noted by Al-Seghayer (2014), the Saudi Arabian English classes are often characterised by strictly following the curriculum and course material to complete the syllabus within the time set by the government. Critiques such as Shyamlee (2012) have contended that this creates an environment that is inflexible, disengaging and that does not attract students' interest in what is being taught. It is perhaps because of their appreciation of the benefits of using IT in teaching and learning that the English language teachers consistently used these technologies to teach during their lessons. This is evidenced by the words of one teacher who stated that, "*teaching such a big class without the projector would be a real nightmare*". In this regard, IT was an important teaching aid that made teaching easier, learning more interesting and flexible. It is also based on their belief that IT contributes to English language learning

that they encouraged their students to use different information technologies even outside the school environment.

The results of the experimental study revealed that the use of IT had a notable impact on student English language achievement. Students in the experimental group and who were taught using a wider variety of technologies ended up with better test scores or grades compared to their counterparts who were treated to learning without IT. That information technology can help in enhancing student achievement has been demonstrated by studies such Saba (2009), Abbas (2014), and Morgan (2002). Based on the findings of his study, Abbas (2014) recommended the use of computers in teaching and learning language noting that it helps improve student achievement. Colin (2002) also discussed a survey conducted in England involving 60 schools that found attainment gains in GCSE exam performance in language correlated with the information technologies used in the schools. In this regard, schools that used advanced technologies and technological gadgets in teaching foreign language had remarkable performance in language. The study by Evans (2009) similarly found that information technology helped improve learners' performances in modern foreign language. Salaberry (2001), however, held the view that so far, there was little evidence to show that technologies such as computers have an effect on learning. With no previous studies touching on the role that IT plays with respect to helping EFL learners overcome their weaknesses, and supporting their strengths, this study highlights new ways in which technology can help ESL learners.

While supporting the use of technology in the teaching and learning of foreign language, Alimemaj (2010) pointed out that information technologies also have their share of disadvantages. YouTube videos, for example, while making learning

interesting may have adverts that may distract students from concentrating on what they should be learning about (Alimemaj 2010). Furthermore, students relying on YouTube videos to learn pronunciation, for example, may watch several clips based on different contexts and providing different pronunciations of the same word, which could confuse students and make it difficult for them to understand the language (Alimemaj 2010).

5.4 Barriers and Challenges Faced in Teaching English Language using Technology

The study found that there were several barriers and challenges encountered in teaching and learning English language using information technology. One of the main challenges in this regard relates to high student population which translated to a higher than recommended student-teacher ratio in the English language class. In the main English classes, the teacher had to contend with a high student population (40-50 students per class). Consequently, it was difficult to use personal IT devises such as a mobile phone to teach the whole class. Consequently, the teacher did not have the opportunity to provide adequate attention to each and every student and so could not adequately meet their learning needs. In comparison, it was much easier and convenient for the teacher of the extra English classes that had fewer students per lesson to user their personal IT devises for teaching and learning.

In congruence with these finding, Hew (2007) noted that several factors can hamper the integration of computer technology in the classroom. The findings are also supported by Liton (2012) who stated that in Saudi Arabia, primary and secondary classes are often oversized with average class attendance ranging from 40 to 50 students. For teachers, such an oversized class makes it difficult for the teacher to efficiently teach all English language skills and cover all learning materials. The need to reduce the

English class sizes in Saudi Arabia has been pointed out by scholars such as Moskovsky and Alrabai (2009). Based on their analysis of the situation of EFL class sizes in Saudi Arabia, Moskovsky and Alrabai (2009) recommended a reduction of the class sizes to 20-25 students or alternatively increasing the number of teachers per class or increasing the number of class sessions available.

Another major challenge to the teaching of English language using IT was the focus on teacher-centred learning. During the main English language lessons, the teacher talked most of the time and monitored the students while the students mostly played the role of passive listeners and users of IT. The learners were always expected to remain quiet, work individually (unless otherwise instructed) and had little opportunity to make decisions on how they wanted to learn. Furthermore, the teacher focused on language forms and structures and did little to help students learn English for typical communication. That students learn in different ways and have different learning styles (auditory, kinesthetic, and visual) is a well-established fact (Tafani 2001; Willingham et al. 2015). Appreciating this fact, Alimemaj (2010) notes that it is important to recognise the different learning styles that students have and teach in ways that meet the needs of learners with these styles. The results of the study indicates that in the main English classes, teaching and learning heavily relied on the use of the computer, projector and whiteboard. The over reliance on the computer-projector-whiteboard system especially for displaying written course content in the main English classes rendered learning less effective for auditory and kinaesthetic learners. Perhaps it is because of the high student population that learning in the main English classes was more teacher-centred and consequently less student-centred.

The finding that teacher-centred learning was a challenge to the implementation of IT for EFL learning is supported by several studies. With education standardised in Saudi Arabia and teachers required to abide by the guidance provided in the teachers' manual book, which to a great extent advocates teacher-centred learning (Alsudais, 2017), it is not surprising that the study found teacher-centred learning to be the order of the day in English language learning in the school. According to Liton (2012), teaching in Saudi Arabian primary schools has mainly been based on traditional approaches (such as the audiolingual and grammar translation approaches) which generally emphasize teaching grammar. It is only recently that the Ministry of Education started to encourage teachers to apply both traditional and modern techniques such as communicative and collaborative techniques (Alsudais, 2017). With regard to student-centred learning, Koretz (2008) notes that if students are allowed to discuss with one another in class, the teacher will more likely get to know the students' weaknesses and help them develop their skills. Although both the teacher-centred approach and the student-centred approach have their share of advantages, the teacher centred approach has been faulted for focusing less on deeper learning, being less exciting for learners, and for not offering learners enough room to make choices - limitations that are all overcome by the learner-centred approach (Lasry et al., 2014; O'Neill and McMahon, 2014).

The study findings reveal that lack of IT equipment, devices and resources was an important barrier to the use of information technology for English teaching and learning. The school only had in its possession a computer, projector, and whiteboard, forcing teachers to bring their own IT devises (such as the Bluetooth speaker, tablet, laptop, and smartphone) for use in teaching. Furthermore, the school had no Internet and the teachers had to use their personal internet subscriptions to access the Internet and online technologies and resources such as YouTube. Inadequate resourcing of

schools with IT equipment, devices and infrastructure has been highlighted by several analysts (Hew 2007; Abukhattala 2016). According to Abukhattala (2016), the availability of technological resources has a great impact on their implementation to the extent that without the resources it is not possible to actualise the implementation.

In developing and underdeveloped countries such as Saudi Arabia, EFL classes have particularly been found to have limited IT resources that can be used to aid or motivate learning. In his study, Merc (2015) found that the lack of technological resources for EFL classes and the mismatch between teacher training programmes and real-world classrooms with respect to the use of technology were major challenges to the use of technology for EFL teaching and learning. In agreement with these findings, Hew (2007) found that lack of resources was a major factor that prevented the integration of IT in the classrooms of many schools due to insufficient budgetary allocations. According to Alsudais (2017), most educational institutions in Saudi Arabia did not have English language facilities such as films, tape recorders, and language labs.

The study results indicated that lack of knowledge and experience on how to use information technologies was a major barrier to the use of IT in teaching and learning English. This situation was occasioned by the lack of training on how to use IT technologies and devises. Even where a teacher had received training on the use of information technologies, going without applying this knowledge for a prolonged duration led to forgetting the knowledge and skills they had gained. The lack of knowledge or experience in the use of IT for teaching led to waste of time, frustrations, and contributed to reduced lesson time. In a teacher-centred environment and in which the class was poorly resourced with IT devices and technologies, students had little opportunity to engage with the IT devises and learn from them without the teacher's

input. In most cases, the students were passive users of the technologies used in their English language classes and as such did not practically learn how to use these devises in spite of their several contributions to their learning.

The above findings auger well with the findings of several studies. Several researchers have emphasized the importance of teachers understanding how to use the technologies they apply in teaching and learning (Shulman 2006). In this regard, Shulman (2006) notes that when it comes to integrating computer technology into classrooms, the knowledge of the teacher is among the most important determinants of success since without this knowledge, the full potential of the technology cannot be fully realised. While this is the case, many studies including Merc (2015) and Abbas (2014) have found that teachers had little or no knowledge and experience in using the technologies they wished to apply in their lessons. Ofsted (2008) also found that teachers remained sceptical about using information technology for teaching since they did not have the confidence to use these tools. Kamhi-Stein (2000) argues that technological developments happen rapidly and as such teachers need to engage in continuous learning if they have to effective in using technology for teaching and learning.

The findings of the study also revealed that a wide curriculum and time constraints were an important barrier to the Teaching of English using IT. The main English class teacher had to adhere to the nationally established English curricular and had to strictly follow the one and only approved course book for each class. With a wide curriculum, the teacher is under pressure to finish the course book within a predefined duration as required by the ministry of education, and only a few English lessons assigned to a class per week, the challenge of incorporating more information technologies in English language teaching was a reality. The teacher consequently had little time to focus on

the weaknesses of individual learners and did not enjoy the flexibility to make adjustments to English lessons to make them more interesting.

The issue of wide curricular and time constraints has surfaced in several literature and studies touching on education in Saudi Arabia. It is indeed a well-established fact that in the country, the curriculum is standardised purposely to enhance quality and teachers are, as a matter of policy, required to plan their lessons solely based on the course books provided by the Ministry of Education (Brulles and Brown, 2018). In an effort to demonstrate how wide the English language for primary school curriculum is, Al-Zahrani (2011) notes that each term students are required to cover about 115 pages of content from their textbook each term. Al-Zahrani (2011) goes further to note that primary school English teachers are constantly under pressure to finish the book by the end of the term and prepare an exam to assess the performance of the learners.

With respect to the extensive curriculum, English language teachers in the country have noted that the biggest barrier to English language learning for students is how the English curriculum is designed (Al-Zahrani (2011). In support of the notion that the Saudi Arabian EFL syllabus has a number of limitations that hinder effective learning, Liton (2012) notes that the time allocated to teaching EFL in primary school is limited. According to guidelines provided by the ministry of education, every primary school class should have at least four EFL lessons and each lesson typically lasts 45 minutes (Liton, 2012). Liton (2012) contends that the time learners are exposed to English language instruction is often insufficient and learners do not have adequate time to practice what they have learnt in school. Faced with serous time constraints, EFL teachers in Saudi Arabia find it difficult to complete teaching materials linked to class activities in a single lesson, the end result being low quality in English and learning

experience. According to AlHazmi (2003), appreciating the need to expose learners more to EFL, school principals in Saudi Arabia have made effort to allocate more time for English classes.

5.5 Limitations of the Study

This study had a number of notable limitations. For one, the study was based on a case study of only one public primary school in Saudi Arabia and relied on a sample of only two female teachers. These situations imply that the results of the study may not be generalizable to all public primary schools. Furthermore, the results may not be generalizable to male Saudi teachers teaching EFL. The option to focus on only one school which incidentally had only female EFL teachers was informed by resource constraints and the reluctance or unwillingness of eligible schools and teachers to take part in the study. This granted, it is a well-established fact that in qualitative studies such as the current study, sample size is a generally a less important factor.

Another limitation of the study related to how the experiment was conducted. The experiment which involved the assessment of students in the control and experimental groups was done within a duration of one week. This was the case considering the teachers concerns about being unable to complete the syllabus within the allocated time if more time was spent conducting the experiment. Conducting such an experiment effectively no doubt required much more time. Even so, the results obtained from the study revealed important trends that point to the impact of IT on student performance.

The study was also limited by the fact that the observations and interpretations made by the sole researcher especially during the interviews and observation study were subjective and could be subject to researcher bias. This limitations was however

countered by the application of triangulation in which case other less subjective data collection methods (questionnaire survey and experiment) were applied.

In addition, the study was limited by the fact that student assessment during the experiment was done by the teacher which had the potential to introduce bias in the setting and marking of the assessment exams. This limitation was reduced since the teacher gave the students examinations that had been set by a different teacher and fairness in the marking of the exams was ensured as the researcher verified how the exams were marked and marks and grades awarded.

Yet another limitation of the study related to its reliance on test scores to assess or measure achievement. It is widely agreed among educational experts that test scores do not provide a direct and wholesome measure of educational achievement and that they may be biased (Koretz, 2008). In spite of this reality, test scores are known to provide a relatively reliable measure of achievement and as such continue to be used worldwide to measure student performance.

5.6 Implications for Research and Practice

The findings of this study revealed that information technology can have several positive impacts on EFL teaching and learning. Apart from motivating learning by making learning interesting, IT can support the acquisition of new language knowledge and skills, help overcome students' weaknesses, and contribute to student achievement in English language. In this regard, the study highlights the importance of implementing information technology in EFL classes. Future studies need to be conducted to establish the long-term effects of using IT in EFL teaching and learning.

From a practical point of view, the Saudi Arabian government and schools in Saudi Arabia should take proactive steps towards equipping their classes with IT tools for learning. Also, given the demonstrated benefits of IT in EFL learning, already trained teachers in Saudi should seriously engage in self-training on the use of information technologies or attend trainings on information technology so as to be effective in the use of such technologies during their EFL lessons.

5.7 Summary

This chapter discussed the findings of the study based on past studies and literature. The chapter further discussed the limitations of the study and the implications of the findings for future research and practice. The findings of the study that different information technologies (such as computer, tablet, mobile phone, speaker, Internet and YouTube) were applied in teaching EFL lessons were widely in agreement with the findings of several past studies. However, the use of Bluetooth for education as established in this study had not been reported in the past studies reviewed. The study finding that IT had several positive impacts on EFL learning (including improving motivation, interest and student achievement) was in line with several studies. The finding that lack of IT resources, lack of knowledge on how to use information technologies, large EFL class sizes, focus on teacher-centred learning, wide curriculum and time constraints were barriers or challenges to the application of IT in English language learning was supported by several studies. The study was limited by its reliance on a small, purposively selected school sample and for relying on test scores as a measure of achievement. Based on the study findings, the use of IT in EFL classes should be implemented in Saudi Arabia.

6.0 Conclusion

6.1 Introduction

This chapter summarises the findings of the study and provides recommendations based on these findings. In this chapter, first the conclusion will be presented and then the recommendations will follow.

6.2 Conclusion

This study had three specific aims. Its first aim was to identify the technologies that English language teachers in Saudi primary schools use as part of their language teaching strategies and what they use these technologies for. The second aim was to assess the impact of using technology as part of language learning strategy on the learning of English language by primary school students in Saudi Arabia. Lastly, the study aimed to identify the challenges and barriers to the use of technology in the teaching and learning of English language in public primary schools in Saudi Arabia.

With regard to the first objective, the study revealed that several information technologies were used in the teaching and learning of English language in the Saudi Arabian public primary school studied. The technologies used in this regard included computers (desktop and laptop), tablet (IPad), mobile phone, Internet, YouTube, whiteboard, projector, Bluetooth, speaker and websites (by virtue of the fact that YouTube is in itself a website as much as it is an application). The study revealed that information technology was used in most EFL lessons and that the technologies used differed between the two teachers involved in the study. It emerged from the study that the whiteboard was a fundamental tool for teaching and learning EFL in the school, just like it is in other Saudi Arabian public primary schools. The study also revealed that

the information technologies used in EFL classes served different purposes. The main uses or purposes the technologies served included facilitating learning activities, displaying course material and content, teaching new knowledge and skills, and helping learners improve on their areas of weakness. While serving these main purposes, IT also made learning interesting and motivated learners to engage in class activities, and helped improve their engagement during lessons.

With respect to the second objective, the study revealed that the use of IT had several positive impacts on English language learning and that it contributed to language learning in different ways. More specifically, the study established that IT helped English language learners overcome their weaknesses, aided their learning, supported their strengths, made learning more interesting, and enhanced their engagement. The use of IT further motivated students to perform their tasks faster and to learn faster. Based on the results of the experimental study, IT was found to have a positive impact on student performance. In this regard, learners who were exposed to an English language learning environment in which a wider variety of information technologies were consistently used in teaching and learning generally achieved high test scores and grades compared to their counterparts who were exposed to an environment in which limited or no technology was used.

With respect to the third and final objective, the study identified five main challenges and barriers to the use of technology in the teaching and learning of English language in public primary schools in Saudi Arabia. One of the challenges identified in this respect was the high student population in EFL classes which rendered the use of some information technologies impractical. Another barrier or challenge related to the application of teacher-centred learning which meant that learners mostly played the role

of passive listeners, rather than active participants in English language learning and in the use of technologies for learning. Lack of IT resources emerged to be another major barrier to EFL learning using IT. The school under study lacked several IT resources such as Internet, speakers, films, CD players, television, and radio, and in this regard seemed to mirror the situation in other Saudi Arabian public primary schools. It further emerged that teachers and students lacked knowledge on how to use IT technologies and devises, which resulted in time wastage and the disengagement of learners. With so much to be covered by the teacher and students within a term, it emerged that wide curriculum and time constraints made it difficult for teachers to adequately use IT for teaching and learning and in some cases forced them to applied traditional teaching techniques and teacher-centred learning.

6.3 Recommendations

Based on the study findings, a number of recommendations are made. Firstly, given that the study results suggest that IT has a positive impact of EFL learning and student achievement, it is recommended that public primary schools seriously adopt IT in the teaching and learning of EFL. Secondly, based on the fact that the findings show a poorly resourced school, it is recommended that schools, with the support of the Ministry of Education, invest adequately in IT resources such as computers, Internet, CD players and CDs, radios, films, projectors, and speakers for use in EFL and other classes. It is also recommended that all EFL teachers receive at least basic training on the use of IT and IT devises during their training in college so as to equip them with the useful knowledge on how to use IT in language teaching and learning. This recommendation is well in line with the conclusion of the study by Kamhi-Stein (2000)

which indicated that ESL teachers should learn how to use technology while they are still students.

One of the main challenges to the application of IT in EFL classes related to high student population and consequently a high student-teacher ratio that made teaching difficult and the use of certain IT technologies virtually impractical. Based on this finding, it is recommended that the Ministry of Education take measures to ensure that class sizes are reduced from the average 40-50 to an average of 20-25, which is a more manageable population and which encourages the practice of the learner-centred approach. With a wide curriculum to be completed within a short time being a challenge to the implementation of IT for EFL learning, it is recommended that the ministry of education redesign the EFL curriculum and possibly allocate more time or lessons to the subject in primary schools.

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Online safety tips for parents of primary school children

6-10 Year Olds

Over 65 % of parents are most concerned about their 6-10 viewing inappropriate content online*

Checklist

Put yourself in control
Make use of the parental controls on your home broadband and any internet-enabled devices. You can find out how at your broadband provider's website or by visiting internetmatters.org.

Search safely
Use safe search engines such as swiggle.org.uk or kids-search.com. Safe search settings can also be activated on Google and other search engines as well as YouTube. You can find out more at google.co.uk/safetycentre.

Agree boundaries
Be clear what your child can and can't do online – where they can use the internet, how much time they can spend online, the sites they can visit and the type of information they can share. Agree with your child when they can have a mobile phone or tablet.

Explore together
The best way to find out what your child is doing online is to ask them to tell you about it. Encourage them to use devices in communal areas so you can see what sites they're visiting and share with them.

Check if it's suitable
The age ratings that come with games, apps, films and social networks are a good guide to whether they're suitable for your child. The minimum age limit is 13 for several social networking sites, including Facebook and Instagram.

Know this stuff matters, but don't know where to turn?

Internet Matters is a free online resource for every parent in the UK. We'll show you the best ways to protect your children online – with information, advice and support on all the big e-safety issues.

internet matters.org

*Source: Children's online safety in 2016 report, Commissioned by Internet Matters by Opinion Leader

Learn about it:

Teach your child some simple rules

- Make sure your child knows not to share personal information like their phone number or email address online
- Only talk to real life friends or family if they are on sites with a social media element like Moshi Monsters or Club Penguin
- Use privacy settings wherever they exist to keep their information private
- Be a good online friend and don't say nasty things even if it's just a joke
- Use secure and legal sites to download music and games
- Check attachments and pop ups for viruses before they click or download anything
- Use Public Friendly WiFi when they're out and about to filter inappropriate content
- Help them to better understand the different online platforms they use and judge the quality and reliability of online resources

Talk about it:

Tips for a meaningful conversation

- Start conversations when your children won't be embarrassed, for example in the car going home from school
- Ask them for advice on how to do something online and use this as a conversation starter
- Make sure they know they can come to you if they're upset by something they've seen online
- Be sensitive and praise them when they share their online experiences with you
- If your child comes to you with an issue, stay calm and listen without judging them
- Talk about online grooming as you would stranger danger and explain that people they meet online might not be who they say they are
- Ask them about things online which might make them uncomfortable

Deal with it

You can find out where to get help and advice on the Report it page of internetmatters.org, where we include information on how to report problems – and which relevant organisations and agencies to turn to.

On this page, we also provide information on how to deal with any specific issues you may encounter with your child; such as finding inappropriate content and cyberbullying.

Stay safe at secondary school

Exposure to some of these issues increases when children move up to secondary school so make sure your child is prepared – find out more with our pre-teens age guide at internetmatters.org/ageguide10-13

internet matters.org

7.1 Consent letter

INFORMED CONSENT (study1)

Dear Parent,

My name is Mayada Alharbi and I am a PhD student at the University of Lincoln working under the supervision Dr Carol Callinan.

My study deals with the impact of using technology as part of a language learning strategy. Specifically it explores the use of technology in terms of teaching and learning English and takes the form of a case study carried out within a Saudi primary school. This study focuses on the use of technology as an approach to teaching beginners' English in your child's school. I want to determine the most useful technology approach for the students when it comes to learning.

I would like to have your permission for your child to take part in this study. During the study the researcher will work with the children in order to assess their English language ability using a range of language tests that are already employed by the school. In addition the researcher will also observe the children in class during English language tuition. The observations will entail the researcher taking notes regarding interaction between the children and the teacher; however, no images will be recorded of the children. Also, I would like to assure you that no harm will come to your child. During school hours and their normal classes they will be taught and observed by a teacher or a researcher (the researcher has observed children in the Primary School of King Fahad Academy in London (2014), and has undertaken a criminal records bureau check). Your child must be happy to participate in order to take part.

Please be aware that this research has the support of the school and has received ethical approval from the University of Lincoln. Part of this approval includes assuring you that should you agree to take part in this research, all of your child's data will be kept secure, confidential and anonymous. That is, ***yours' and your child's identity will never be used in the reporting/publication of any of the data collected during this study***. Also, your child's data will kept secure after completion of the research for a period of 5 years, with the data being stored in a locked filing cabinet.

You also need to know that you have the right to withdraw your child's participation and/or data from this study at any time, up until completion of the research (we will write to you at this time so that you are aware when the study is finished). Please be assured that your child's name

PLEASE RETURN COMPLETED FORMS TO YOUR SCHOOL or RESEARCHER

will not be used to label the data. Instead, their data will be labelled with a random code, so I will not be able to identify your child's data.

If you have any questions or concerns, please contact me at mAlharbi@lincoln.ac.uk .

By signing this document you are agreeing that you have read this information sheet and agree to participate in the study, 'The impact of using technology as part of a language learning strategy in terms of teaching and learning English: a case study of a Saudi primary school **'.** I will be very grateful if you could send the completed form back to me. This information will stay any anonymous, and your name will not be used in any data. In addition, you may withdraw at any time.

Print YOUR CHILD'S Name (First and Last): _____

Print YOUR Name (First and Last): _____

YOUR Signature:_____

Today's DATE:_____

Your child's birthdate:_____(dd)/_____(mmm)/_____(yyyy)

Is your child's first language Arabic? (circle one)

Yes No

If not, what is your child's mother tongue?

Does your child speak English?

Yes No

PLEASE RETURN COMPLETED FORMS TO YOUR SCHOOL or RESEARCHER

INFORMED CONSENT (study1)

Does your child love English?

Yes No

Why do you think your child loves/hates English?

Do you speak English with them in the home?

Yes No

How often and when does this occur?

Do you think your child is fluent in English? If so, why is this?

Yes No

Why?

If you have any comments, please do not hesitate to write them to help me in my study.

THANK YOU FOR YOUR HELP.

PLEASE RETURN COMPLETED FORMS TO YOUR SCHOOL or RESEARCHER

7.2 Ethics

EA2

Ethical Approval Form:
Human Research Projects

Please word-process this form. Handwritten applications will not be accepted.

UNIVERSITY OF LINCOLN

This form must be completed for each piece of research activity conducted by academics, graduate students and undergraduates. The completed form must be approved by the School of Education Research Ethics Committee.

Please complete all sections. If a section is not applicable, write N/A.

1 Name of researcher	Mayada Alharbi **Department/School: School of Education, College of Social Science**
2 Position in the University	PhD Student
3 Role in relation to this research	Primary Investigator
4 Title of the research project	The impact of using technology as part of a language learning strategy in terms of teaching and learning English: a case study of a Saudi primary school
5 Brief statement of your main research question	This study aims to explore how technology can support English language learning in Saudi Arabian primary schools. Specifically it will explore the following research questions: a) What new technologies do Saudi teachers use as part of their language learning strategies, and how do they use them to make progress and enhance the students' progress in English language classes? b) How can Saudi primary schools use new technology as part of their language learning strategies in the classroom in such a way as to promote enjoyment when it comes to learning English? c) What is the impact of new technology on student achievement and on making good progress in the English language?
6 Brief description of the project	As a still growing area of research interest, using technology as part of a language learning strategy is an area that still needs to be explored so as to provide results with regard to different contexts and age groups. Specifically, this study seeks to research the Saudi Arabian school situation. Simply put, the Saudi government has been observed to put a great deal of time and lots of money into the education sector. However, as several researchers have pointed out (Abbot, 2006; Alnufaire & Grenfell, 2012), there are still weaknesses in Saudi primary schools in terms of using technology in the classroom. The use of technology can help teachers to enhance the students' learning and motivate them, especially with regard to learning English as a foreign language. This study will employ qualitative and quantitative analysis using

	observational field notes and assessments of English language ability. The target population will be Saudi Arabian school children and their teachers (a target sample of no more than 3 schools). In this way, the analyses will enable the researcher to explore the research aims and questions around the use of technology and the way that this can support English language learning. Measures will include: 1) Survey / observe what is currently used in the classroom by teachers, and what strategies they use to support the children's learning (qualitative) 2) Observation of children's responses in the classroom, this will include a tally chart of behaviours (smiling, engagements, eye-gaze, talking etc) 3) Assessments of English language ability (e.g. reading, writing, comprehension, speaking) Design an intervention in which will use additional technology and compare this group to another class (I will teach one class in one school when I undertake my pilot study). Firstly, I will make some observations of the teachers' classes to determine what the teachers use in terms of technology in order to teach the students. If I find that the teachers use relatively little technology in their classes, I will use more technology in my class and I will do assessments of the English language ability of the students in my class (e.g. reading, writing, comprehension, speaking) and compare this group to another class in the same year at the same school. If I find that the teachers currently use technology in their classes, I will note the most common kind of technology that they use and how they use it. Then I will use another kind of technology in my classes in order to explore the impact. For example, if the teachers use the internet and the smart board a lot in their classes, I will use different kinds of technology such as games etc. Then I will carry out assessments of English language ability (e.g. reading, writing, comprehension, speaking) for my class and compare this group to another class in the same year at the same school in order to explore any impact that this may have on their English language ability.
	Approximate start date: September 2016 — **Anticipated end date:** September 2017
7 Name and contact details of the Principal Investigator (if not you) or supervisor (if a student)	Dr.Carol Callinan **Email address:** CCallinan@lincoln.ac.uk — **Telephone:** 01522837315
8 Names of other researchers or student investigators involved	1. 2. 3. 4.

9 Location(s) at which this project is to be carried out	I will undertake my study at a primary school entitled "162 primary school" in Riyadh, the capital of Saudi Arabia. The researcher will do the part of the research study dealing with the English classes. English is taught in Saudi Arabia from Year 4 rather than from Year 1 of primary school. This means that the researcher will undertake observations for grades 4, 5 and 6. Each grade has two classes and in each class there are around 29 students whom the researcher will observe. In addition, there are 2 teachers for those 4, 5, and 6 grade classes. The researcher will give them a questionnaire to explore what strategies they use to support the children's learning and observe what is currently used in the classroom by teachers.
10 Statement of the ethical issues involved and how they are to be addressed, including discussion of the potential risks of harm to both project participants and researchers **This should include:** • **an assessment of the vulnerability of the participants and researchers** • **the manner and extent to which the research might not honour principles of respect, beneficence and justice** • **concerns relating to the relationships of power between the researcher(s) and those participating in or affected by the research**	The British Educational Research Association (BERA) mentioned that " The Association considers that education research should operate within an ethic of respect for any person involved in the research they are undertaking." (BERA ,2011). In this research we will seek the consent of the schools Head teachers, Teachers, Parents, and the children. Firstly, I will contact the school in Saudi Arabia to obtain permission to undertake my pilot study. Since schools in the KSA do not use a great deal of technology, it will be difficult to contact them through emails or Skype if I need information. I am aware of the need to choose a new school which has the technology to make it easier to contact them and this may impact on the generalizability from the study but will aid recruitment. It would be beneficial to know someone working in a Saudi school so that I can contact them if I am in the UK, to get the response more quickly and more easily than contacting the school without a previous introduction, therefore this research may use a convenience sample. As part of this process I will explain the research aims to the school and that this research has the support of the School of Education and that ethical approval for the approach has been received from the University of Lincoln. It is not anticipated that any harm will occur to the children during this study, the design will follow the current curriculum and will only change the presentation methods used for the materials. Any materials used in the language teaching will be drawn from reputable websites, and will be age appropriate for the children. The researcher will ask the teachers for their consent to take part in this study. The researcher will introduce the research aims to the teachers in terms of seeing the impact of using technology in their classes. The researcher will explain that they will use the text book (this is the current approach to curriculum delivery in KSA) but will use technology as an approach. The design will follow the current curriculum and will only change the presentation methods. Guidance regarding who delivers the intervention will be taken from the school, in the first instance the researcher will aim to deliver this intervention but if the school would prefer the researcher will develop the intervention and train an existing teacher to deliver this to the children. This open ended approach will help to support the researcher in assessing the impact of using technology in their classes as well as ensuring that the school and teachers are comfortable with the way that the research will take place. The researcher will undertake all observations and assessments of learning in order to compare the intervention group to other classes of the same age. Any teacher who does not wish to participate in the project will be free to withdraw and will not need to provide a reason for doing so. At no time will the teachers be coerced into taking part in the study, all participation

	will be voluntary and all teachers will complete a voluntary informed consent prior to participation. The participating teachers will be fully debriefed following the study. The families of the children will be asked to give their informed consent prior to the researcher undertaking any aspects of the study. In order to support the parents in their decision making the researcher will talk to them in person after they drop off their children at school in the morning. Should that time of day be difficult for the parents, the researcher will ask the school to contact the parents via a letter explaining the purposes and aims of the study in order to seek parental informed consent. The researcher will introduce the aim of the study and discuss how this approach may support children's learning through the use of technology in English language classes. Any materials used in the language teaching will be drawn from reputable websites and sources, and will be age appropriate as well as having been approved by the school and the teachers. The researcher will inform the parents at this time that they have the right to withdraw their children from the project at any time without giving a reason for doing so. The parents will be provided with contact details for the researcher to ensure that they can communicate with her at any time. Also, the researcher will explain that this research has the support of the school and has received ethical approval from the University of Lincoln. In addition the parents will be assured that no harm will come to their children during the study and that their children must be happy to participate in order to take a part. The researcher will ask the children prior to undertaking any activities with them and will only work with those children who are happy to participate. Should any child appear to be uncomfortable during the research project they will be withdrawn from the study. The children's identity will never be used in the publication of any data collected during this study. The children's data will be labelled using a random code. In addition, the children's data will be kept secure and there will be complete confidentiality and anonymity. The children's data will kept secure for a period of 5 years with the data being stored in a locked filing cabinet after completion of the research. The British Educational Research Association (BERA) mentioned that children's "…research must explore alternative ways in which they can be enabled to make authentic responses" (BERA ,2011). The researcher will ask the children if they are happy for her to teach them and observe them. If the children are in the early stages of learning language, the researcher will observe whether they are looking happy or not happy, if they are not happy the researcher will stop and let their teacher teach them and use the methods which the researcher uses. The researcher will observe them and carry out assessments and compare this group to other classes. British Educational Research Association (BERA) (2011). *Ethical Guidelines for Educational Research.* [ONLINE] Available at: https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2011. [Accessed 9th November 2015].
11 Does this research involve children and/or young people?	**Yes** ■ **No** □

	If yes, please explain (a) how you have obtained or will obtain the appropriate permissions to work with these people (E.g., DBS check in the UK), and (b) your principles for their ethical engagement.

Ethical approval from other bodies

12 Does this research require approval from an external body?	**Yes** ☐ **No** ☒
	If yes, please state which body:
13 Has ethical approval already been obtained from that body? Please note that such approvals must be obtained before the project begins.	**Yes** ☐ **(Please append documentary evidence to this form.)** **No** ☒ **(If no, please explain why below.)**

APPLICANT SIGNATURE

I hereby request that the School of Education Research Ethics Committee review this application for the research as described above, and reply with a decision about its approval on ethical grounds.

I certify that I have read the University's Ethical Principles for Conducting Research with Humans and Other Animals (which can be found online here: http://visit.lincoln.ac.uk/C11/C8/ResearchEthicsPolicy/Document%20Library/Research%20Ethics%20Policy.pdf).

Applicant signature **Date** 23/11/2015

Mayada Alharbi

Print name

FOR STUDENT APPLICATIONS ONLY
Academic Support for Ethics

Academic support must be sought from your mentor prior to submitting this form to the School of Education Research Ethics Committee.

Undergraduate and Postgraduate Taught applicants should obtain approval from their tutor or an academic member of staff nominated by the Department.

Postgraduate Research applicants should obtain approval from their Director of Studies.

I (the undersigned) support this application for ethical approval.

26/11/15

Academic / Director of Studies signature **Date**

Dr Carol Callinan

Print name

For completion by the Chair of the School of Education Research Ethics Committee

Please select ONE of A, B, C or D below.

☒ **A. The School of Education Research Committee gives ethical approval to this research.**

☐ **B. The School of Education Research Committee gives *conditional* ethical approval to this research.**

14 Please state the condition (including the date by which the condition must be satisfied, if applicable).	

☐ **C. The School of Education Research Committee cannot give ethical approval to this research but refers the application to the College of Social Sciences Research Ethics Committee for higher level consideration.**

15 Please state the reason.	

☐ **D. The School of Education Research Committee cannot give ethical approval to this research and recommends that the research should *not* proceed.**

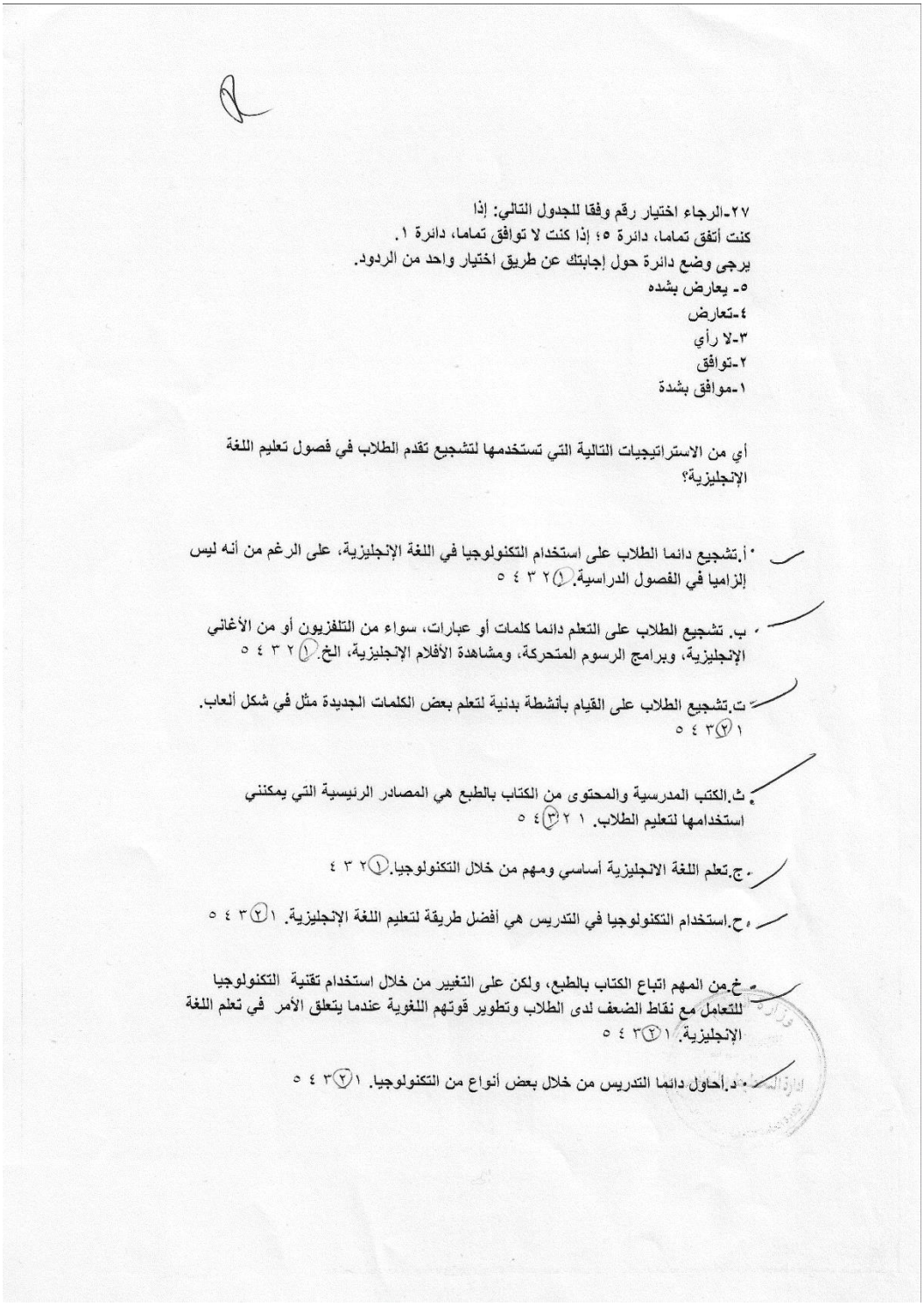
16 Please state the reason.	

Signature of Chair of School of Education Research Committee (or nominee)

08/01/2016

Signed **Date**

7.3 Translated the questionnaire for Teacher R from English into Arabic



٢٧-الرجاء اختيار رقم وفقا للجدول التالي: إذا
كنت أتفق تماما، دائرة ٥؛ إذا كنت لا توافق تماما، دائرة ١.
يرجى وضع دائرة حول إجابتك عن طريق اختيار واحد من الردود.
٥- يعارض بشده
٤-تعارض
٣-لا رأي
٢-توافق
١-موافق بشدة

أي من الاستراتيجيات التالية التي تستخدمها لتشجيع تقدم الطلاب في فصول تعليم اللغة الإنجليزية؟

أ.تشجيع دائما الطلاب على استخدام التكنولوجيا في اللغة الإنجليزية، على الرغم من أنه ليس إلزاميا في الفصول الدراسية. ١ ٢ ٣ ٤ ٥

ب. تشجيع الطلاب على التعلم دائما كلمات أو عبارات، سواء من التلفزيون أو من الأغاني الإنجليزية، وبرامج الرسوم المتحركة، ومشاهدة الأفلام الإنجليزية، الخ. ١ ٢ ٣ ٤ ٥

ت.تشجيع الطلاب على القيام بأنشطة بدنية لتعلم بعض الكلمات الجديدة مثل في شكل ألعاب. ١ ٢ ٣ ٤ ٥

ث.الكتب المدرسية والمحتوى من الكتاب بالطبع هي المصادر الرئيسية التي يمكنني استخدامها لتعليم الطلاب. ١ ٢ ٣ ٤ ٥

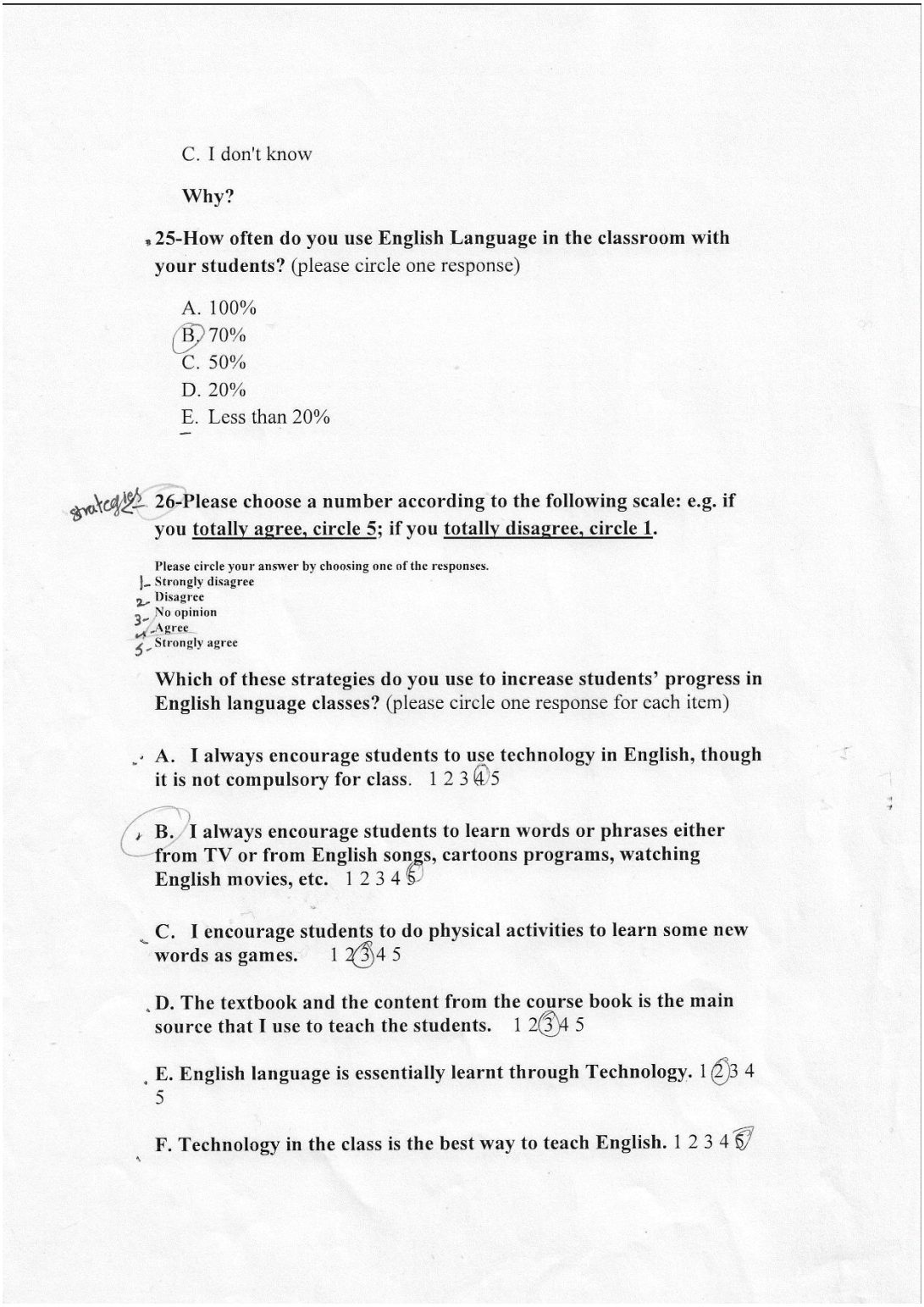
ج.تعلم اللغة الانجليزية أساسي ومهم من خلال التكنولوجيا. ١ ٢ ٣ ٤

ح.استخدام التكنولوجيا في التدريس هي أفضل طريقة لتعليم اللغة الإنجليزية. ١ ٢ ٣ ٤ ٥

خ.من المهم اتباع الكتاب بالطبع، ولكن على التغيير من خلال استخدام تقنية التكنولوجيا للتعامل مع نقاط الضعف لدى الطلاب وتطوير قوتهم اللغوية عندما يتعلق الأمر في تعلم اللغة الإنجليزية. ١ ٢ ٣ ٤ ٥

د.أحاول دائما التدريس من خلال بعض أنواع من التكنولوجيا. ١ ٢ ٣ ٤ ٥

7.4 Teacher N misunderstood instructions of the questionnaire



C. I don't know

Why?

25-How often do you use English Language in the classroom with your students? (please circle one response)

A. 100%
B. 70%
C. 50%
D. 20%
E. Less than 20%

strategies **26-Please choose a number according to the following scale: e.g. if you totally agree, circle 5; if you totally disagree, circle 1.**

Please circle your answer by choosing one of the responses.
1- Strongly disagree
2- Disagree
3- No opinion
4- Agree
5- Strongly agree

Which of these strategies do you use to increase students' progress in English language classes? (please circle one response for each item)

A. I always encourage students to use technology in English, though it is not compulsory for class. 1 2 3 4 5

B. I always encourage students to learn words or phrases either from TV or from English songs, cartoons programs, watching English movies, etc. 1 2 3 4 5

C. I encourage students to do physical activities to learn some new words as games. 1 2 3 4 5

D. The textbook and the content from the course book is the main source that I use to teach the students. 1 2 3 4 5

E. English language is essentially learnt through Technology. 1 2 3 4 5

F. Technology in the class is the best way to teach English. 1 2 3 4 5

7.5 The questionnaire form

Questionnaire to Teachers

Dear Teachers,

I would like to ask for your help with my PhD study. This study focuses on the **Impact of using technology as a part of a language learning strategy in terms of teaching and learning English: a case study of a Saudi Primary School**. This study investigates the use of technology in teaching and learning in English classes. I would like to know your comments and critical ideas in order to generalize the findings from my study. Please respond to the following questions as honestly as possible. I would be very grateful if you could return completed questions to me during my visits to the school. This information will remain confidential and anonymous, your name will not be used in any data and you may withdraw from the study at any time.

Questionnaire on using technology as a part of language learning strategy in terms of teaching and learning English:

Name:

Educational Field/Major:

What qualification(s) do you have?

2-To which age group do you belong? (please circle response)

25-30 years 31-35 years 36-40 years 41-45 years Over 45 years

3-How many years you have taught English (please circle response)**:**

5 or less, 6 – 9 years, 10 – 14 years, 15+ years

4-Where did you obtain your qualification(s)? (please circle response)

K.S.A U.K. Other……..

5- Had you trained as a teacher before you began teaching English? (please circle response)

Yes No

6-Have you received training on how to use technology when teaching English? (please circle response)

Yes No

7-Have you tried to take training for technology in order to support you when teaching English? (please circle response)

Yes No

If yes how?

8-What kind of technology do you have in your school? (please circle all that apply)

A. IPad

B. Computers
C. Smart board
D. YouTube
E. Games

Others? (please state)

9-What kind of technology do use most in your English classes? (please circle all that apply)

A. IPad
B. Computers
C. Smart board
D. YouTube
E. Games

Others? (please state)

10-According to your experience what forms of technology do the learners in your English classes prefer? (please circle all that apply)

A. IPad
B. Computers
C. Smart board
D. YouTube
E. Games

Others? (please state)

Why?

11-In your experience which is the most effective form of technology for supporting students' achievement? (please circle all that apply)

A. IPad
B. Computers
C. Smart board
D. YouTube
E. Games

Others? (please state)

Why?

12-Do you like to use different technology in the class to teach English? (please circle all that apply)

A. IPad
B. Computers
C. Smart board
D. YouTube
E. Games

Others? (please state)

Why?

13-In your opinion should English be taught in …… (please circle one response)

Early stage from grade 1 to grade 3 (7- 9 years old)

Primary stage from grade 4 to grade 6 (10 -12 years old)

Intermediate stage (13-15 years old)

Secondary stage (15-18 years old)

Why?

14-Do you think learning English language in influenced by the age of the learners? (please circle one response)

Yes

No

I don't know

Why?

15- Depending on your student's weakness and strengths do you follow the course book without any change?
(please circle one response)

A. Always.
B. Sometimes.
C. Never.

Why?

16-Do you adapt your course book by using different sources of technology (for example, computer, games, smart board) to help you teach English? (please circle one response)

A. Always.
B. Sometimes.
C. Never.

17-When you give the learners homework, do you encourage the use of technology? (please circle one response)

A. Always.
B. Sometimes.
C. Never.

18-If you set homework that uses technology do most of the students complete it? (please circle one response)

A. Always.
B. Sometimes.
C. Never.

19-If you set homework that does not use technology, do most of the students complete it? (please circle one response)

A. Always.
B. Sometimes.

C. Never.

20-Do you think that including technology can affect the students' ability to complete their homework? (please circle one response)

A. Always.
B. Sometimes.
C. Never.

21-In general, do you give your students a lot of homework for English (e.g. reading, writing, comprehension, speaking)? (please circle one response)

A. A lot of homework
B. Moderate homework
C. Little homework
D. I do not give them any homework

22-How many times a week do you test the students' English ability (e.g. reading, writing, comprehension, speaking)? (please circle one response)

A. Once a week.
B. Twice a week.
C. Every day.
D. Other…….

23-Have you tried to test the students using any kind of technology as e.g. completing an online quiz? (please circle one response)

A. Always.
B. Sometimes.
C. Never.

24-Do you translate between English and Arabic in your class if the learners are finding comprehension difficult? (please circle one response)

A. Yes
B. No

C. I don't know

Why?

25-How often do you use English Language in the classroom with your students? (please circle one response)

A. 100%
B. 70%
C. 50%
D. 20%
E. Less than 20%

26-Please choose a number according to the following scale: e.g. if you totally agree, circle 5; if you totally disagree, circle 1.

Please circle your answer by choosing one of the responses.
Strongly disagree
Disagree
No opinion
Agree
Strongly agree

Which of these strategies do you use to increase students' progress in English language classes? (please circle one response for each item)

A. I always encourage students to use technology in English, though it is not compulsory for class. 1 2 3 4 5

B. I always encourage students to learn words or phrases either from TV or from English songs, cartoons programs, watching English movies, etc. 1 2 3 4 5

C. I encourage students to do physical activities to learn some new words as games. 1 2 3 4 5

D. The textbook and the content from the course book is the main source that I use to teach the students. 1 2 3 4 5

E. English language is essentially learnt through Technology. 1 2 3 4 5

F. Technology in the class is the best way to teach English. 1 2 3 4 5

G. It is important to follow the course book but adapt it through technology in order to support the students' weakness and strengths in learning English. 1 2 3 4 5

H. I always try to teach the students using any kind of technology. 1 2 3 4 5

I.I always encourage the learners to learn English through technology at home. 1 2 3 4 5

27-Which of the following types of activities do you think of as the most useful when it comes to teaching and learning English? ( )

A. **Using Computer.** 1 2 3 4 5
B. **Using smart board.** 1 2 3 4 5
C. **Using games.** 1 2 3 4 5
D. **Using iPad.** 1 2 3 4 5
E. **Using YouTube.** 1 2 3 4 5
F. **Vocabulary Word Games**. 1 2 3 4 5
G. **Physical activities such as drawing or dancing**. 1 2 3 4 5
H. **Encouraging students learning through peers when working using technology as an activity in the class** 1 2 3 4 5
I. **Encouraging the students learning through group work when using technology as an activity in the class** 1 2 3 4 5

28-How do you motivate your students to learn English? (please circle one response)

A. Giving them gifts
B. Asking their friends to clap their hand for them
C. Reward them in the front of the class
D. Giving them stickers

Other?

29-Do you use "Teaching through play" as a technique with your students when teaching English? (please circle one response)

A. Yes
B. No
C. I do not know

If yes, how effective do you find it?

A. Very effective
B. Moderately effective
C. Not effective at all

Why?

……
……
……
……
……
……
……

30-Are you satisfied with your students' results and their achievements when learning English using technology? (please circle one response)

A. Extremely satisfied
B. Quite satisfied
C. Neither satisfied
D. Dissatisfied
E. Not satisfied at all

31-What are the most useful strategies for learning English when using technology?

……
……

……
……

32-Have you tried to build or create a website etc. using technology to support the learners English language development?

Was this successful and why?

33-What problems do you face with regards to strategies for learning English when using technology?

……
……
……
……
……

Do you try to change them? How?

……
……
……
……
……

THANK YOU VERY MUCH FOR YOUR COOPERATION. IF THERE IS ANYTHING ELSE YOU WOULD LIKE TO MENTION, PLEASE DO NOT HESITATE AND DO SO BELOW.

7.6 The interview questions

Interview the teachers:

This research is guided by the following central research questions:

1. What is the teacher’s qualifications for teaching English?
2. Have the teachers had any training before teaching, especially for using technology?
3. What are the teacher's methods when teaching English?
4. What technology does the teacher use most frequently when teaching English?
5. What kind of technology do the teachers think supports English most effectively in terms of student's achievements?
6. What kind of technology do the learners like in English classes?
7. What do the teachers do to improve the children’s progress in English?
8. What is the level of the children’s English language ability?
9. Does the teachers use assessment for the students in order to assess their English language ability (e.g. reading, writing, comprehension, speaking.) How are these assessments undertaken?
10. What kind of homework do the teachers give to the learners?
11. How much homework do the teachers give the learners each week?
12. Does the learners do the homework using technology at home?
13. Do the teachers encourage the use technology to complete the homework?
14. What kind of technology can support the learners to make improvements in learning English?
15. What kind of technology do the teachers use to improve the learners weaknesses?

16. Have you tried to build or create a website or anything through the technology to support the learners to learn English depending on the student's weaknesses and strengths?
17. How do the teachers build their technology resources depending on the learner’s weaknesses and strengths?
18. Do the children use the technology at home to learn English?
19. What are the challenges facing the teachers when teaching English in Saudi Arabia?
20. What kind of activities involving technology do the teachers use for the learners?
21. Which English learning strategies that include technology do you think the students use most and why?
22. Does your school support the use of technology? How?
23. What kind of technology do you have in the school?
24. What kind of technology do you use most of time?
25. Have you tried to test the students through at any kind of technology?
26. What do you think is the most effective technology for supporting the students’ achievement?
27. Do the teachers use different activities to enhance the students’ English learning and enjoyment? How?
28. Add any new information related with the questions?

7.7 The observation form

Topic:

Observation questions:

1. Does the teachers come on time?

Yes No Time

2. What kind of technology is available in the class?

2-

3-

4-

3. What are the strategies that the teachers used in the classroom for English classes?

1-

2-

4. What are the technology strategies that the teachers used in the classroom when teaching English?

1-
2-
3-

5. How long do the English teachers use technology in the class?

Little____ Sometimes_____ Most of the time

6. Does the teacher follow the book most of the time? How?

Yes No

How?

7. Does the teacher develop or build their lessons without following the course book? How? (do they use technology)

Yes No

How? (do they use technology)

8. What are the technology strategies that the students like? Which kind of technology strategies do they like? (smiling, sharing, be active etc.)

Strategy	Smiling	Sharing	Be active	Looking interesting	Other
					Keep the students make attention most of the time.

9.What kind of technology can support the learners to make improvements in learning English?

	Type of Improvement	Number of children	Response
IPad			
Computers			
Smart board			
YouTube			
Games			
Others			

10.Does the teacher change the type of technology that they are using during the class? Why does this appear to have been done?

Yes No

Why? (May ask the teacher after the lesson)

11.Do the teachers connect the technology for English lessons between the class and home? How?

Yes No

How?

12.What is the approach used in the learner's homework?

Strategy	Type	Amount	Time Given	Links to classroom activities
Writing most of the time				

13.How many times do the teachers give the learners homework (so much, few, little)? What type of homework?

All the time sometimes never

What type of homework?

writing		

14.Do the learners complete the homework through the use of technology? How? What kind of technology do they use?

Yes No

How?

15.What kind of technology do they use?

16.Do the teachers use different activities to enhance the students' English learning and their enjoyment? How?

Activities	How
Review	
Reading	
Stick the pictures with the right answer	
conversation	

17.Do the teachers complete assessment for the students English language ability (e.g. reading, writing, comprehension, speaking) How?

Type of Assessment	Focus	How

18. Add any new information related with the questions.
